VOLUME XIV
No. 11

GOVERNMENT OF NORTHERN IRELAND
MINISTRY OF AGRICULTURE

MONTHLY REPORT

MARCH, 1940.

IMPERIAL MYCOLOGICAL
1 APP 1940
INSTITUTE

PRINTED UNDER THE AUTHORITY OF HIS MAJESTY'S STATIONERY OFFICE
BY BELL & LOGAN, LTD., BELFAST

GOVERNMENT OF NORTHERN IRELAND
MINISTRY OF AGRICULTURE

MONTHLY REPORT

March, 1940

VOLUME XIV No. 11

CONTENTS

PAGE

AGRICULTURAL CONDITIONS:—

CONDITIONS AT 1st MARCH 652
THE CROPS 653
FRUIT 656
LIVE STOCK 656
DAIRY PRODUCE 658
The Ploughing-up Campaign 659

MARKETING SCHEMES AND ENACTMENTS:—

The Livestock and Meat Control Scheme:—
FIXED PRICES 664
Butter Prices 666
Marketing of Eggs Acts (N.I.), 1924-1937:—
NORTHERN IRELAND EGG PRICES (PRODUCERS) 666
PRICES PAYABLE BY WHOLESALE DEALERS 667
Wheat Acts, 1932 and 1939:—
ADVANCE PAYMENT TO REGISTERED GROWERS 667
Flax and Flax Seed 668
Potato Marketing:—
POTATOES (1939 CROP) (CONTROL) ORDER, 1940 669
POTATO (1939 CROP) (CHARGES) ORDER, 1940 669

Contents (*continued*)

Page

AGRICULTURAL NOTES:—

Seasonal Farm Notes 672
Seasonal Livestock Notes 680
Seasonal Garden and Orchard Notes 685
Seasonal Poultry-Keeping Notes 688
Results of Crop Experiments, 1939 691

ANNOUNCEMENTS AND REMINDERS:—

General 698
Ulster Dairy School 699
North West School, Strabane 699
Field Beans, Kales and Cabbage 699
Leaflets 700
Egg-Laying Test at Stormont 700

AGRICULTURAL PRICES:—

Ministry of Labour Retail Prices and Indices 701
Trade and Prices of Livestock at Belfast Auction Marts 702
Trade and Prices of Livestock at Fairs 702
Fertiliser Prices (see back cover).
Tillage Publicity Campaign 704

MINISTRY OF AGRICULTURE

MONTHLY REPORT

MARCH, 1940.

With the very satisfactory progress made with tillage work during February, and the weather continuing reasonably favourable, the general outlook is most encouraging and bids fair to lead to results which may exceed the expectations of even the most optimistic a month or so ago.

In order to allow for the time lost through adverse weather conditions in January, a further extension of time has been granted applicants for the ploughing grant in which to get the necessary work completed. This concession will be most appreciated in the late and heavy soil districts where field work generally is in a less forward state than elsewhere, and where further intensive efforts will be needed to get all the additional land ploughed.

The attention of readers is especially directed to the request in the printed circular letter enclosed with this issue, and it is asked that each recipient will be good enough to furnish a reply thereto as indicated, in order to assist the Ministry in the revision of the mailing list for the report, in the interests of economy.

Further to the publication of this report it may be mentioned that an effort is being made in these pages to keep farmers fully advised and informed, not only in regard to matters consequent on conditions arising from the war effort, but also in connection with field and livestock husbandry. To this end the seasonal notes have been extended, and the results of crop experiments included in this issue.

19th March, 1940.

AGRICULTURAL CONDITIONS.

AGRICULTURAL CONDITIONS AT 1st MARCH, 1940.

Although the weather conditions throughout the past month were rather unsettled, a good deal of field work was possible, especially in the latter half. The bright, sunny periods, during which east winds were prevalent, were punctuated by days of heavy rains and sleet. Another feature was the low night temperatures, causing severe frosts on occasions. In damp, heavy soil areas, ploughing and other seasonal work were retarded by the alternating wet and frozen ground conditions, but in other districts work could be pushed ahead on most days, and considerable progress was made.

Farmers took full advantage of the opportunities afforded for breaking up old lea land for the ploughing grant, and tractor ploughs were particularly busy in nearly all districts, with the general result that considerable progress was made. A substantial area of rotational grassland, stubble land, and potato and turnip ground, was also turned over during the month. The rapidly changing face of the countryside in the early districts was a clear indication of the very real efforts made in response to the national appeal.

Other seasonal tasks, such as lifting potatoes from the pits, carting off turnips, and carting and spreading farm-yard manure, were also tackled with varying results depending on the weather and soil conditions prevailing. The threshing of oats made good progress, as did the scutching of flax, and little now remains to be done in either direction.

As a result of the severe weather of the past winter, the continued low temperatures and more intensive grazing than usual, pastures are now rather bare. On younger pastures, however, a fresh growth of grass was recently noticeable and, unless more severe weather intervenes, these should soon provide a fair amount of "keep". With the pressure of work resulting from the tillage campaign, pastures were, unavoidably, more or less neglected this season, and little harrowing and manuring have yet been done, but it was learned that phosphates were being applied on an increasing scale last month, and it is likely that a good deal will be done during the present month. Adequate supplies of manures are available, and farmers are now taking delivery of them for use for the various crops.

The most satisfactory feature of the month was the considerably improved position with regard to feeding stuffs, and fairly adequate supplies can now be obtained in all districts. Stock owners were particularly grateful for the

increased quantities of "straight" foods which were available, and prices for these generally tended to ease during the month. These supplies arrived at a most opportune time, as the severe weather conditions had depleted stocks of home-grown fodder to an appreciable extent, and while there should be a general sufficiency of home-grown foods to finish the season, the stocks on hand are below normal (except in the case of potatoes).

With regard to livestock, the health of the cattle remained good, but the condition of the animals was rather thin, and the same was true of sheep. Lambing is now in progress, and so far the results have been good. Store and dairy cattle were in quiet but steady demand at fairs last month, and prices generally held to previous levels. Fat stock continued to be bought by the Ministry, acting as agents for the Ministry of Food, at the fixed prices.

THE CROPS.

WHEAT.—The brairds are generally strong and healthy, but in a few fields, especially on old lea ground, they are looking rather thin, and frosts and wild birds have done some damage. It is expected that in some districts the area under this crop will be increased further by sowings of spring varieties.

The threshing of last year's crop was completed in most areas some time ago with satisfactory results. Relatively very few sales of wheat off farms were made during February, but some sales of seed for spring sowings were made at from 16/- to 18/- per cwt.

OATS.—Threshing progressed rapidly last month, and it is now nearing completion. The quality of the grain and straw was usually good.

With the recent improvement in supplies of purchased foods, smaller quantities of oats were being fed, and in only a few districts are the stocks now on hand much below average for the time of year. A good proportion of these are of high quality and suitable for seed. The supply of seed oats is, however, generally adequate, but where it is not, farmers, as a rule, have acted on the advice of the Ministry, and taken the necessary steps to arrange that supplies will be available at sowing time.

The maximum prices per cwt. for home-grown oats are: Feeding 11/-, milling 12/-, seed 16/- (if the seller is the grower thereof), or 17/- (if the seller is an approved buyer).

Prices for oat straw moved steadily upwards, and the monthly average of 86/7d. per ton was 8/3d. above the January figure.

BARLEY.—Threshing operations were completed some time ago, and the quantity and quality of the grain were well up to average. Little, however,

has reached the markets, as the bulk of it was retained on the farms either for feeding or seed. A few sales of barley were effected last month at from 14/- to 20/- per cwt.

The very considerable number of inquiries regarding supplies of seed barley is a clear indication that farmers are taking the necessary steps to ensure that they will be less dependent on imported grain for feeding to livestock next winter, by growing more of this important grain. It seems highly probable, therefore, that the area under barley will be very greatly increased this year, and in order to facilitate farmers in obtaining the necessary supplies of seed the Ministry has made arrangements for supplies to be available at stated prices. Further information on this matter appears on page 661. Supplies of this seed can be obtained from merchants in all districts.

Flax.—Further progress was made with scutching last month, and the work is now almost completed. The yields were generally satisfactory, and nearly all the fibre marketed continued to be placed in second, third and fourth grades. The following are the weekly average prices per stone of flax purchased in Northern Ireland by the Ministry of Supply (Flax Control) compared with those in the open market a year ago.

1940			1939		
Week ended—	s.	d.	*Week ended—*	s.	d.
10th February ...	13	4½	11th February ...	10	3½
17th „ ...	13	5¾	18th „ ...	10	0
24th „ ...	13	5¾	25th „ ...	9	10½
2nd March ...	13	5	4th March ...	9	10½

Fixed prices for the 1939 and 1940 crops are shown on page 668.

Farmers are generally well satisfied with the maximum prices of flax seed and this, combined with the favourable impression made by the prices announced for the 1940 flax crop, has resulted in many farmers deciding to sow a much larger area under this crop. Adequate supplies of seed will be obtainable through merchants, but only limited quantities of the blue-flowering, pure strains, will be available. A note on the general position with regard to supplies of seeds and prices appears on page 668.

Hay.—Most farmers have been economical in their use of hay, and on the majority of farms the quantities on hand are expected to be adequate for the remainder of the season, but there are some local shortages, and an early spring of grass would generally be welcomed.

Both upland and meadow hay continued in firm request, and prices hardened further. Upland hay at an average of 113/6d. per ton was 4/4d. dearer, whilst meadow hay averaged 86/6d., an advance of 1/9d. per ton over the January figure.

The prices paid for the end-of-the-season supplies of grass seed were higher. Italian rye grass seed was 1/4¼d. firmer at the high average price of 58/4¾d. per cwt., and Perennial seed was on average 3/0½d. dearer at 32/11d. per cwt.

BEANS.—A much greater interest is being taken in this crop than usual, on account of its value as a protein food. It is understood that as a general rule farmers have been able to obtain sufficient seed for their requirements from local seedsmen. Those proposing to grow beans for the first time are advised to read Leaflet No. 97.

MANGELS.—The roots kept well, and little damage was done by frost except in badly covered pits. Fair quantities have been fed and, although the stocks on hand vary a good deal throughout the country, they are generally thought to be adequate for further requirements.

TURNIPS.—Roots which were lifted and stored are in good condition, but those in the drills suffered severely from frosts, and the stocks on farms are consequently rather below normal. On some farms supplies have been exhausted, but on most the stocks of sound roots are sufficient to finish the season.

POTATOES.—Little damage was done to the tubers by the recent frosts, and the general condition of the crop is very satisfactory.

The surplus stocks remaining on farms vary a good deal, but despite the large quantities fed during the winter, they are usually larger than was the case at this time last year.

Prices for potatoes marketed at local markets during February moved irregularly, but on balance were easier. The average quotation of 4/3½d. per cwt. was 3½d. lower on the month, while the principal varieties, Arran Victory and Kerr's Pink, were also cheaper at 4/3d. and 4/4¾d. per cwt. respectively.

Growers' prices for ware potatoes during the week ended 2nd March, 1940, were easier on the week, and ranged as follows :—

VARIETY	*Bagged*	*Loose*
Arran Victory	£3 10 0 to £4 0 0	£3 10 0
Arran Banner	£3 0 0 to £3 10 0	£3 0 0
Kerr's Pink	£3 10 0 to £4 0 0	£3 10 0
Gladstone	£4 0 0 to £4 10 0	

There appears to be ample supplies of seed potatoes available in all districts.

The prices as fixed by Order appear on page 671.

CABBAGE AND KALE.—These crops suffered to some extent from the frost, and the supplies have now nearly all been used up.

Other Vegetables.—During the month of February home-grown produce marketed for local consumption, generally sold at dearer rates. Savoys realised from 11d. to 2/-, and were 2¾d. dearer on the month at 1/6¼d. per dozen; while cauliflowers, marketed at Belfast, were firm in price at 3/- per dozen. Leeks fetched from 5d. to 1/2d., and averaged 10d. per bunch, and parsley at from 4d. to 1/-, was ½d. dearer on the month at an average of 9¼d. per bunch. Carrots ranged from 8/- to 18/-, and averaged 12/7¼d. per cwt., or 2/4½d. more than a month ago, and parsnips were 2/4¾d. dearer at 9/7d. per cwt.; while turnips sold at late rates of from 1/- to 2/- per cwt.

Towards the end of the month there was a keen demand for vegetables at Belfast market for shipment to Great Britain.

FRUIT.

Apples.—Supplies of home-grown apples at Belfast market were plentiful during February, but trade throughout the month continued dull at low prices. The principal culinary variety, Bramley's Seedling made 8/- per 10 stone barrel for best quality fruit, while lower grade produce was quoted at around 6/-, and ungraded and inferior produce at 3/- to 4/-. Barrels of superior quality fruit occasionally fetched 10/-.

Imported produce at Belfast market during the month included apples and plums, for which prices ranged from 15/- to 21/- per box of 40 lb., and from 36/- to 38/6d. per 9 stone barrel for apples, and from 4½d. to 6d. per lb. for plums.

LIVE STOCK.

Cattle.—Store cattle remained in good health throughout February, but the condition of most of the animals was thinner than usual on account of the limited supplies of concentrates available.

The demand for store cattle remained dull during last month and, although strong animals continued to sell readily, inferior and younger cattle were difficult to cash. Prices, however, were usually firm in sympathy with the fixed prices paid under the Livestock and Meat Control Scheme for fat stock.

Fat cattle were purchased by the Ministry last month on behalf of the Ministry of Food at fixed prices. A price increase of 6d. per live cwt. came into operation on 26th February. The numbers of cattle being stall fed are below average, but the assured prices, and the recent improvement in the feeding stuffs situation, encouraged farmers towards the end of the month to bring more animals in to feed.

The general condition of the dairy herds was slightly less satisfactory than usual, and the milk yields were below average for the season. The health of

the animals was, however, normally good, and calving proceeded without any unusual incident. Whilst there does not appear to be any general tendency to reduce the numbers of dairy cattle, in some districts fewer young heifers than normal have been bought for breeding purposes.

The offerings of dairy cattle at fairs and auction sales held during February were of only moderate quality and, while the demand for good types remained fairly keen, the trend of the realised prices was unchanged to easier on the month.

Sheep.—The flocks were maintained in an exceptionally good state of health, and only a comparatively small number of cases of foot rot, liver fluke and pregnancy disease were reported. The severe wintry weather of January, however, left its mark on the condition of many animals, especially in hill flocks, where some of the ewes were reported to be in a weak and backward state.

Lambing has now generally commenced, and most of the ewes are lambing down in a good healthy condition. The fall so far has been quite satisfactory, and there has been a fair proportion of twins.

Fat sheep and lambs continued to be purchased at fixed rates last month under the Livestock and Meat Control Scheme.

Horses.—With the exception of first-class horses, for which there was a ready demand at slightly higher prices, trade remained featureless. As a general rule good working horses of from 4 to 10 years old were quoted at from £18 up to £55 according to age and type, and older horses from £8 to £30 per head. Unbroken colts realised late prices of from £15 up to £40 per head, and foals from £10 to £24 according to type.

Pigs.—There was an improvement in trade for young pigs last month for, with the feeding stuffs' position becoming easier, feeders were buying more freely at rising prices. Brood sows, however, generally remained in dull request at previous quotations.

Bacon pigs continued to be marketed at light weights during February, although there was an increased proportion of the heavier weights towards the close. Supplies were bought up at fixed prices under the Control Scheme.

Poultry.—Supplies of poultry at markets last month sold at dearer rates. Chickens firmed by 3½d. to 2/11d. each, hens by 3d. to 1/11d. each, and ducks by 3¼d. to 2/7d. each. The prices per lb. live weight paid by wholesale merchants followed a similar trend, and ranged as follows:—Chickens, large 9d. to 1/-, medium 8d. to 10½d., small 7d. to 9d., hens 4½d. to 7½d., and ducks 4½d. to 7d.

DAIRY PRODUCE.

MILK.—The limited supplies of feeding stuffs, and the prevailing cold weather, continued to have a depressing effect on the yields, but in some districts fairly good supplies were available for the creameries. It was, however, learned that towards the end of February, when concentrates became available in increased quantities, the yields began to show an improvement.

The prices paid to producers for milk delivered to the creameries during February were similar to those obtaining in the previous month, and ranged from 5d. to 8d. per gallon, the separated milk being returned to the farmer.

As the average price paid for milk produced in Northern Ireland, and delivered to the creameries for manufacturing purposes for the month of January, 1940, was again in excess of the standard price provided for by the Milk and Milk Products Acts (Northern Ireland), 1934 to 1938, no equalisation payments were made in respect of that month.

FARM BUTTER.—Supplies of farmers' print butter at markets in Northern Ireland during February sold at slightly easier rates, the weighted average price being ¼d. cheaper at 1/5½d. per lb., whilst lump butter was on average ½d. dearer at 1/4½d. per lb. The general price ranges were :—1/3d. to 1/7d. per lb. for farmers' print butter, and 1/2d. to 1/5d. per lb. for lump.

EGGS.—Producers' prices, as fixed weekly by the Ministry of Agriculture, for hen and duck eggs advanced further during the month of February, but at the end of the month prices suffered a sharp drop. A table of egg prices, showing the prices ruling during the five weeks ended 2nd March, 1940, together with comparative figures for 1939, appears on page 666 of this Report.

The attention of egg producers is again directed to the announcement on prices payable by wholesale dealers in eggs to poultry-keepers, which is reproduced on page 667.

THE PLOUGHING-UP CAMPAIGN.

WORKING UP TO A GOOD FINISH.

Although frosts and rains on several occasions retarded progress with the work of ploughing last month, on the whole conditions were favourable and, with the intensive efforts directed towards the completion of this work, very considerable progress was made, and most of the arrears which had accumulated during the spell of frost-bound conditions in January were overtaken. This is particularly true in the early and light soil districts where the work is in a very forward state, but in general it is estimated that fully three-fourths of the total area of old grassland scheduled for ploughing for the grant has been dealt with.

Following the general thaw at the beginning of February, the east winds were most beneficial in helping to dry up the ground and thereby speeding the work of the plough. Farmers made a fine response, and activity on the land reached a high level, with the general result that the position in regard to the Tillage Campaign is much more satisfactory than was considered possible a month earlier. There is, however, plenty of work still to be done, and it will be necessary for the farming community to put all their energy into the great task this season. The need to do so has been amply illustrated in recent broadcasts to farmers. Speaking on the wireless no later than Thursday, the 7th March, Sir Basil Brooke stressed the vital importance to the whole community of this work, and declared that the British plough is far mightier than the German submarine. The defeat of the submarine and the mine depended on the Navy and the farmer, and the plough will beat the submarine just as effectively as the magnificent Navy is sending the U-boats to their permanent base—the bottom of the sea. Speaking a few nights later on the same subject, the Lord Privy Seal, Sir Samuel Hoare, in urging farmers to push forward with the work of ploughing in this, the greatest of farming campaigns, stated that "at every crisis in our history we come back to the land."

Farmers, he said, could help as few others could, for the more food they grow the less the shipping tonnage will be needed to bring us food from overseas. He mentioned in this connection that "In time of peace we require for our imports of food more than 20,000,000 tons of shipping a year. That is not far short of one half of Britain's total call upon shipping tonnage in normal times. In war time we must greatly reduce this tonnage for foreign food, and use it instead for munitions and the raw materials that are needed for them. If you can help us to do this, you will be making a mighty contribution to our capacity to face this war of nerves and endurance."

Sir Samuel spoke of the spirit of the farming community that has never failed to respond completely to the stiffest demands made upon it. That is true, as the annals of the countryside can testify. But he also recognised the fact that, while the farmer can be relied upon to do his share of the work, the Government has its duties.

He repeated the British Prime Minister's pledge, given on 28th February, in regard to prices—"that prices of farm produce must be such as to give a reasonable return to the farmer, and enable the farmer to pay a reasonable wage to the worker."

"That declaration by the Prime Minister," Sir Samuel continued, "leaves no possibility of doubt. It cannot be misunderstood."

THE PLOUGHING GRANT.

THAT QUARTER MILLION EXTRA ACRES!

It is most gratifying to record that the appeal for an extra quarter-million acres to be put under the plough this year has already met with a considerable degree of success, according to the applications received for the ploughing-up of old grassland alone, and even allowing for the fact that a certain number of the claims may not qualify for the grant by reason of the fact that it was not possible to do the necessary work, the additional land which will be cultivated in compliance with the Compulsory Tillage Order will mean that there will be an increase in the area under arable land this season in the region of a quarter of a million acres. The figures to date in regard to the ploughing grant are:—Total number of applications received, 49,600; total acreage involved, 240,000; total amount of grant paid £105,000.

In connection with the payment of these claims it has come to the Ministry's notice that applications have been made in a number of cases by the owners of the land who had let it for ploughing and subsequent cultivation to other persons. As the grant is payable to the person at whose expense the necessary work of ploughing, and subsequent cultivation to bring the land into a state of cleanliness and fertility is done, the making of these applications by the owners who are not eligible has caused a certain amount of delay in the settlement of these claims. In other cases, where ploughing has been done by one person and the subsequent cultivation by another, the question of the division of the grant between the parties in accordance with the provisions of the scheme extension of time for ploughing has delayed the settlement of the claims.

To those farmers who have been held up by weather or other causes in getting their land ploughed for the grant, the recent announcement of a further extension of time to the 30th April for the work will be most welcome.

In special circumstances the Ministry may approve of an extension up to 15th May for the ploughing up of **additional** grassland for sowing to special crops.

TRACTORS AND MACHINERY.

The sale and distribution of tractors and tractor implements continued freely during February, and there are now over 1,300 tractors available for agricultural use. The Ministry's hire-purchase scheme has proved of much benefit in enabling persons who would not otherwise have been able to buy them to procure tractors.

Constant attention is being given to the supply of implements and machinery for both spring and harvest use. Orders for such implements and machines should be placed with dealers without delay. Farmers are reminded, also, that the overhaul of mowers and binders should be put in hands this year much earlier than usual. If this is not done there may be difficulty in obtaining the necessary spare parts.

Tractor owners who intend to purchase threshing machines for hiring out next winter should order them now. Assistance is given in the purchase of threshing machines under the hire-purchase scheme, of which particulars may be had on application to the Ministry.

SEED BARLEY.

Hitherto pig producers have depended mainly on maize (or yellow) meal for feeding to pigs, but imports are now restricted, and as maize cannot be grown in Northern Ireland, as it requires a hot climate, a substitute must be grown. **Much the best substitute is barley.**

Last year less than 3,000 acres of barley were grown in Northern Ireland. This year this figure should be raised to 50,000 acres to make the position secure.

THE MINISTRY'S SEED BARLEY.

To ensure a plentiful supply of seed at a reasonable price the Ministry has purchased a very large bulk from the best barley-growing district in England. It is now in process of delivery and distribution.

How to Purchase.—The Ministry's barley is obtainable by seed retailers from Messrs. Samuel M'Causland, Ltd., 36 Victoria Street, Belfast (Telephone 26691), who are the only wholesale distributing agents. Farmers should at once order what they require **from their usual retailer.**

Price of Barley.—The retail cash price at which retail seedsmen will sell the Ministry's barley to farmers who undertake to sow it is 17/9d. per cwt.

If credit is given, an additional 1/- per cwt. will be charged. Sacks, if taken away from the retailer's store, will be charged for at 3/6d. each, but **this charge will be recoverable in full** when the sacks are returned undamaged to the retailer. Farmers may avoid the charge for sacks by taking their own sacks to the retailer's store when purchasing. There will be no charge for carriage.

Varieties.—The Ministry's barley is of two varieties of closely similar type. They are: Spratt Archer and Golden Archer. Both are quite suitable for use in Northern Ireland. Spratt Archer was, in fact, actually bred in Ireland for Irish use. No hesitation whatever need therefore be felt in ordering, though it may not be possible for a retailer to undertake to supply either particular variety.

OTHER BARLEYS.

It should be clearly understood that the fixed price of 17/9d. applies **only** to the barleys distributed under the Ministry's scheme. Seed barley as such is not the subject of any official price control. There is, therefore, nothing improper in the higher prices asked by seedsmen for other barley stocks which they have themselves purchased at higher prices.

Farmers who have already made seed barley purchases at prices above 17/9d. have been quite justified in so doing, since there was no certainty that a large supply would be forthcoming, and no serious probability of a lower price. The additional price paid was, therefore, merely an insurance premium against failure to obtain a supply, and should not be the source of any disappointment to those provident enough to have paid it.

BARLEY CULTIVATION.

Farmers intending to sow barley are strongly recommended to read the Ministry's Leaflet No. 95, in which full details of cultivation, manuring, etc., are clearly given. Copies are available, free of charge, on application to The Secretary (Leaflets), Ministry of Agriculture, Stormont, Belfast.

RYEGRASS SEED.

A considerable increase in home demand for both perennial and Italian ryegrass seed is anticipated during spring and summer of this year, and in 1941. Moreover, the demand for Northern Ireland seed from abroad is being well maintained in spite of war conditions. This is very much to the good of farmers in the grass-seed growing industry, and all are urged to make use of it.

A greatly increased supply is wanted of both varieties, and particularly of Italian. Prices are good and must remain fairly good even should they be officially controlled.

Seed-growers are, therefore, urged to market at once whatever 1939 seed they still have in their hands, and to increase both the area harvested in 1940 and the area sown now for 1941 harvest.

LOANS FOR THE PURCHASE OF SEEDS AND FERTILISERS.

1. The Ministry of Agriculture is prepared during the present state of emergency to consider applications from farmers for loans for the purchase of seeds and artificial fertilisers.

2. Application for Loans.—The prescribed form of application must be completed and sent to the Ministry of Agriculture (Loans Branch), Stormont, Belfast. Copies of this form can be obtained from the Ministry, any Police Barracks, Creamery, or from any Tillage Officer.

3. Terms and Conditions of Issue.—The borrower will be required to enter into a written Agreement with the Ministry:—

(a) To repay the loan on the conditions outlined in paragraphs 4 and 5.

(b) If repayment of the loan is not made on the due dates, interest shall continue to accrue until payment, and the debt due may be deducted from any monies payable to the Borrower by the Ministry.

(c) To produce evidence to the Ministry (if required) of the purchase of the seeds and/or fertilisers for which the loan is given.

Sureties will not be required.

4. Repayment.—A loan given on or before the 30th June in any year is to be repaid in two equal instalments of Principal, as follows:—

(a) the first instalment on the 31st December of the same year, with Interest at 5⅛ per cent. on the full amount of the loan from the date of issue of the loan up to the 31st December;

(b) the second instalment on the 31st December of the year following, with Interest for one year at 5⅛ per cent. on half the amount of the loan.

5. A loan given on or after the 1st July in any year is to be repaid in full, with interest at 5⅛ per cent. on the 31st December of the following year.

6. A borrower may repay his loan or any portion thereof with accrued Interest at any time before the due date. A Receivable Order to enable this to be done can be obtained on application to the Ministry.

7. Any further information required may be obtained on application to the Ministry.

MARKETING SCHEMES AND ENACTMENTS.

THE LIVESTOCK AND MEAT CONTROL SCHEME.

FIXED PRICES.

The Ministry, acting as agents for the Ministry of Food, purchased all fat cattle and sheep at the appointed centres on and after the 15th January, 1940, in accordance with the arrangements already notified.

FAT CATTLE.

The following prices came into operation on 18th March, 1940.

	Steers, Heifers and Cow-heifers (Home-bred)		* Cows		Bulls	
	Killing out percentage	Per live cwt.	Killing out percentage	Per live cwt.	Killing out percentage	Per live cwt.
Special	60 and over	65/6	†54 and over	47/6	†57 and over	50/–
					†54 to 57	47/6
A	58 to 60	62/6	55	42/–	58 and over	41/–
	57	61/–	54	40/–	57	40/–
	56	59/6	53	38/–	56	39/–
B	55	57/–	52	35/6	55	37/6
	54	55/6	51	33/6	54	36/6
	53	54/–	50	31/6	53	35/6
C	52	47/6	49	28/6	52	31/6
	51	45/– (41/–‡)	48	26/6	51	28/6
	50	42/6 (36/–‡)	47	24/6	50	25/6

* From 18th inst. there is a general increase of 3/- over the prices operating from 11th inst. † Cows and Bulls of Special Grade must be well-finished young animals yielding first quality beef. ‡ These prices apply to Cow-heifers only.

CALVES.

(1) Veal Calves.

First quality ... 13d. per lb. estimated dressed carcase weight.
Second quality ... 11d. per lb. ,, ,, ,,
Third quality ... 9d. per lb. ,, ,, ,,

(2) Other Strong Calves.

Calves (other than bobbies) which are fit only for manufacturing purposes, e.g., "stirky" calves, 6d. per lb. estimated dressed carcase weight.

(3) Bobby (Slink) Calves.

(*a*) Suitable only for manufacture :

Large	25/– per head.
Medium	20/– ,,
Small	15/– ,,

(*b*) Unfit for human food : 3/6 per head.

FAT SHEEP.

The price to be paid continues to be based on an annual average of 12d. per lb. estimated dressed carcase weight.

Sheep born before 1939 : (*a*) Fit for retail meat trade (other than those in (*b*) and (*c*)) 13d., (*b*) Of weight exceeding 72 lb., over-fat 9d., (*c*) Unthrifty sheep 8d. **Ewes :** (*a*) Light weight not more than 64 lb. 9d., (*b*) More than 64 lb. 8d. **Rams :** 8d.

Prices for shorn sheep are 1d. lower.

Lambs : (*a*) First quality 14½d., (*b*) Unthrifty lambs 9d. **Sucking Lambs :** (Until 30th April) 1/5. **Lean sheep and lambs** (fit only for manufacturing) : Rams 3d., others 4d

FAT PIGS.

On and after Monday, 18th March, 1940, until further notice, pigs purchased alive by the Ministry of Agriculture (on behalf of the Ministry of Food) and pigs sold dead by producers to curers in Northern Ireland will be paid for in accordance with the following prices :—

Pigs sold alive to the Ministry :—

Weighing from 100 lb. to 160 lb. live weight ...	67/6 per cwt.	live weight.
Weighing from 112 lb. to 180 lb. dead weight ...	103/7 ,,	dead weight.
Weighing from 181 lb. to 185 lb. dead weight ...	100/10 ,,	,,
Weighing from 238 lb. to 256 lb. live weight ...	75/8 ,,	live weight.
Weighing from 257 lb. to 282 lb. live weight ...	73/6 ,,	,,
Weighing from 283 lb. to 308 lb. live weight ...	69/4 ,,	,,
Weighing over 308 lb.	67/2 ,,	,,
Live Sows	51/– per cwt.	live weight
,, Rigs	92/5 ,,	dead weight.
,, Stags	36/6 ,,	live weight.
,, Boars	36/6 ,,	,,

Pigs sold Dead to Roll and Ham Curers in Northern Ireland.

Weighing from 112 lb. to 180 lb. dead weight ...	99/– per cwt. dead weight
Weighing from 181 lb. to 200 lb. dead weight ...	96/6 ,, ,,
Weighing from 201 lb. to 220 lb. dead weight ...	94/– ,, ,,
Weighing from 221 lb. to 240 lb. dead weight ...	88/6 ,, ,,
Weighing more than 240 lb. dead weight ...	85/6 ,, ,,
Dead Rigs	88/6 ,, ,,

Sows, stags and boars must not be sold dead.

These prices will be subject to the following deductions in respect of insurance :

Live pigs 6d. per pig; dead pigs 4d. per pig; sows, stags and boars 2/- per pig.

All pigs and pig carcases sold will also be subject to a deduction of 8d. per pig in respect of the administrative levy of the Pigs Marketing Board.

BUTTER PRICES.

Under the Butter (Maximum Prices) Order, 1940, made by the Minister of Food, which came into force on the 8th January, 1940, the fixed maximum prices for all grades of butter are :—

First hand price "ex store"	...	143/- per cwt. in bulk.
Wholesale price delivered	...	150/- „ „ „ „
Retail price ...	...	1/7 per lb.

Where, on a first-hand sale or on a sale by a wholesaler to a retailer, the butter is delivered in rolls, bricks or packets weighing not more than 1 lb. each, an additional charge at a rate not exceeding 6/- per cwt. may be made.

MARKETING OF EGGS ACTS (N.I.) 1924—1937.

NORTHERN IRELAND EGG PRICES (PRODUCERS).

The following table shows the prices fixed by the Ministry, and payable by licensed wholesale dealers, for eggs purchased from producers during the weeks specified, as compared with the prices fixed for the corresponding weeks of 1939.

	1940				1939			
	Hen eggs per lb.*		Duck eggs per doz.*		Hen eggs per lb.		Duck eggs per doz.	
	s.	d.	s.	d.	s.	d.	s.	d.
February 3rd	1	4½	1	9	0	8	1	4
„ 10th	1	4½	1	9	0	7	1	4
„ 17th	1	7	2	0	0	6½	1	2
„ 24th	1	7	2	0	0	6½	1	0
March 2nd	1	1½	1	9	0	6½	0	10

* When hen eggs are delivered by the producer to the packing store of a licensed Wholesale dealer of Class A an additional ½d. per lb. is payable; in the case of duck eggs an additional ½d. is payable for each complete dozen so delivered.

Payment on a quality basis came into operation during the week ended 5th March, 1938. The following were the standard deductions :—

Hen eggs : Seconds and soiled eggs, ½d. per egg; Rejects 2d. per egg during the weeks ended 3rd and 10th February, and 2½d. per egg during the weeks ended 17th and 24th February, afterwards 1½d. per egg.

Duck eggs : Rejects 1½d. per egg up to and including the week ended 10th February, 2d. per egg during the weeks ended 17th and 24th February, afterwards 1½d. per egg.

PRICES PAYABLE BY WHOLESALE DEALERS IN EGGS TO POULTRY KEEPERS.

The following announcement is a repetition of that which appeared in the February issue of this Report on Standard Prices.

The Ministry, acting on the advice of the Egg Marketing Committee for Northern Ireland, has decided to make a change in the method by which Standard prices for eggs are determined. Since the Scheme came into operation in October, 1937, the Standard price published each week has been the price payable by wholesale dealers to producers for eggs for supplies collected at the farm. Producers who delivered their supplies to the packing store of a licensed wholesale dealer of Class A, or to an approved depot, were entitled to receive for hen eggs ½d. per lb. and for duck eggs ¾d. per dozen in addition to the Standard price.

From the 1st April, 1940, however, the Standard price published by the Ministry will be the price payable only in respect of supplies of eggs **delivered** to the packing store of a licensed wholesale dealer of Class A or an approved depot. The price payable to producers in respect of eggs collected at the farm or delivered to any premises other than those stated above, will be ½d. per lb. for hen eggs, and ¾d. per dozen for duck eggs **lower** than the Standard price.

The Ministry would like to assure poultry keepers, however, that the principle now adopted by the Egg Marketing Committee does not mean that they will get a lower price for eggs. Briefly, it is designed to enable economies to be made in the collection of eggs and their delivery to Class A stores.

It should be observed that the date for the coming into operation of the changes in the method of determining prices of eggs has been postponed from the 4th March, 1940, to the **1st April, 1940.**

WHEAT ACTS, 1932 AND 1939.

ADVANCE PAYMENT OF £976,000 TO REGISTERED WHEAT GROWERS.

The Wheat Commission despatched cheques to 40,171 registered growers on the 19th February in respect of an advance on account of deficiency payments payable under the Wheat Acts for the cereal year ending 31st July, 1940. In 504 other cases payment will be made as soon as possible.

The payment relates to wheat certificates delivered to the Commission not later than 19th January, and in respect of which no previous advance has been made. It was at the rate of 3/- per cwt. (13/6 per quarter) on 1,206,000 cwt. of wheat sold on or before the 20th October, 1939, and at 2/- per cwt. (9/- per quarter) on 7,952,000 cwt. of wheat sold after that date.

The aggregate amount of the advance is approximately £976,000, bringing the total sum advanced on account of deficiency payments for the current cereal year to approximately £1,952,000. This sum covers 99,400 wheat certificates vouching for a total quantity of 15,664,500 cwt. (3,481,000 quarters) of wheat.

FLAX.

The Control of Flax (No. 5) Order, 1939, dated October 23rd, 1939, provides that all flax will be divided into six grades, as follows:—

	s.	d.	
No. 1	16	6	per stone in the market.
„ 2	15	0	„ „
„ 3	13	9	„ „
„ 4	12	6	„ „
„ 5	11	3	„ „
„ 6	10	0	„ „

Flax not good enough for No. 6 grade will be taken at a relative price.

The price for the 1940 Northern Ireland flax crop has been fixed at 17/6d. to 22/6d. per stone with an average price of 20/- per stone.

SEED.

On the 17th January, 1940, the Minister of Supply, London, made an Order entitled The Control of Flax Seed (No. 1) Order, which requires that all flax seed in Northern Ireland or to arrive in Northern Ireland after the date of the Order shall be placed at the disposal of the Minister. The Ministry of Agriculture for Northern Ireland has been authorised to act in Northern Ireland as the agent for the Minister of Supply.

On the 17th February, 1940, the Control of Flax Seed (No. 2) Order which specifies the controlled prices for the sale of flax seed was made. These prices are as follows:—

	Maximum prices per cwt.	
	Wholesaler's price. delivered to retailer.	Price to farmer.
	s. d.	s. d.
1. Certified Blue Flowering Pure Strains produced in Canada, Holland or Denmark	65 0	70 0
2. Certified White Flowering "Concurrent" ...	50 0	55 0
3. Riga or Dutch Commercial Blue Flowering	50 0	55 0
4. Uncertified Blue Flowering, Produced in Canada ...	47 6	52 6
5. Uncertified White Flowering "Concurrent"	40 0	45 0
6. Belgian Riga	40 0	45 0
7. Belgian "Concurrent"	40 0	45 0
8. Seed produced in Northern Ireland:—		
Class I. (Blue Flowering Pure Strains)	60 0	65 0
Class I. (White Flowering "Concurrent") ...	45 0	50 0
Class II. (Blue Flowering Pure Strains)	40 0	45 0

Towards the end of February the releasing of flax seed through the ordinary trade channels in Northern Ireland was commenced by the Ministry of Agriculture. It is pointed out, however, that the supply of pure line blue-flowering seed this year will be somewhat limited. There are, however, ample supplies of varieties other than pure line varieties.

POTATO MARKETING.

POTATOES (1939 CROP) (CONTROL) ORDER, 1940.
POTATO (1939 CROP) (CHARGES) ORDER, 1940.

These Orders came into operation on the 12th February, and a brief account of their provisions was given in the Monthly Report for that month. It is the object of these notes to discuss in greater detail the importance of these new Orders from the point of view of the farmer in Northern Ireland.

The Orders provide for the regulation of the sale of home-grown ware and seed potatoes of the 1939 crop with the object principally of insuring farmers against low prices and against losses on any possible surplus of the 1939 crop. The Orders affect the grower in broadly three ways in so far as they provide for:—

(a) Licensing,
(b) Minimum and maximum growers' prices, and
(c) The establishment of a Potato Fund.

LICENSING.

Under this Order, no grower, unless he is a licensed grower salesman, may sell ware potatoes to anybody who is not either a licensed grower salesman himself or a licensed merchant or a licensed retailer. No grower, unless he holds a permit from the Ministry, may sell seed potatoes to anybody who is not a licensed seed potato merchant.

So far as ware potatoes are concerned, there are thus two classes of growers under this Order. There are licensed grower salesmen and these are growers who sell the bulk of their potatoes to consumers, catering establishments, fish friers, and other unlicensed buyers. They include many of those growers who sell their produce in open markets. They are a relatively small proportion of the total number of growers. They are required under the Order to keep records of their transactions, and to make a monthly return to the Ministry

of all their dealings in potatoes in the previous month. Secondly, there are unlicensed growers and these are in the majority. They are required to sell no potatoes except, in the case of ware, to a licensed grower salesman, licensed retailer or licensed merchant, and in the case of seed, to licensed seed potato merchants, and if they do so, they are liable to penalties under the Order. Unlicensed growers are not required to make returns but they must keep detailed records of their transactions.

The chief exception to this licensing provision is that growers may continue to sell ware and seed potatoes through an auctioneer, but such an auctioneer must be licensed under the Potato Control Order. In addition to this, a grower need not sell to a licensed buyer where he is selling less than one cwt. in a transaction, provided that transaction is not part of a series, or where he is selling to persons employed by him.

MAXIMUM AND MINIMUM PRICES.

The maximum and minimum growers' prices fixed for Northern Ireland ware potatoes are set out below:—

Variety Classification.	Growers' prices f.o.r. or on Buyer's Lorry	
	Shillings per ton	
	Maximum	Minimum
Grade A (1) King Edward, Gladstone	100/–	80/–
(2) Kerr's Pink, Arran Victory	90/–	70/–
Grade B (1) Up-to-Date, Dunbar Standard, Arran Peak	90/–	70/–
(2) Any other variety	80/–	60/–

It should be noted that the cost of bags must be borne by the buyer, and that a sum not exceeding 10/- per ton may be added to the grower's price if the grower provides the bags. If, however, the potatoes are sold loose by the grower, and the buyer has to perform the service of bagging, the Ministry considers that it would not be unreasonable for the merchant to deduct a sum not exceeding 5/- from the grower's price to cover this service.

While a month ago, growers' prices were well above the minimum owing to the heavy demand for potatoes for feeding to animals, they have since dropped, and the benefits of a minimum price are now apparent.

SEED POTATO PRICES.

VARIETY	Riddles applicable to Potatoes grown in Northern Ireland.	Minimum Growers' Prices F.O.R. or on Buyer's Lorry. (Sacks excluded.)	
		Classification.	
	Riddle	"Class I C.L.T.S. Certificate" "Class I C.L. Certificate" "Class I A.T.S. Certificate"	"(Northern Ireland) Uncertified"
	Inches	Shillings per ton	Shillings per ton
1st Earlies ...		In each case the Maximum Price will be 5/- more than that given below.	
Arran Pilot ...	2¼/1¼	135/-	125/-
Di Vernon ...	2¼/1¼	175/-	165/-
2nd Earlies ...			
British Queen	2¼/1¼	90/-	80/-
Dunbar Rover	2¼/1¼	170/-	160/-
Maincrop			
Arran Banner ...	2¼/1¼	90/-	80/-
Arran Consul ...	2¼/1¼	100/-	90/-
Arran Victory	2¼/1¼	90/-	80/-
Gladstone ...	2¼/1¼	110/-	100/-
Kerr's Pink ...	2¼/1¼	90/-	80/-
Majestic ...	2¼/1¼	90/-	80/-
King Edward VII	2¼/1¼	100/-	90/-
Up-to-Date ...	2¼/1¼	100/-	90/-
Dunbar Standard	2¼/1¼	110/-	100/-
Arran Peak ...	2¼/1¼	110/-	100/-

THE POTATO FUND.

The Charges Order provides for the collection of a levy on potato sales and sets up an Insurance Fund for farmers with an end-of-season surplus. Licensed traders who bought potatoes from growers pay levy on the resale of potatoes. The rate of levy for licensed retailers is 7/6d. per ton and for licensed merchants 5/- per ton. Licensed seed merchants are required to pay a levy of 2/6d. per ton. In the case of grower-salesmen who sell the bulk of their potatoes to unlicensed buyers, the levy is 6/- per ton. It may seem peculiar that a scheme devised to assist farmers should, in the case of grower-salesmen, seem to require a payment. The following facts must be borne in mind:—

(1) The levy paid by the licensed grower-salesman is passed on to the next trader, that is to say, the buyer, within the margin of maximum and minimum prices.

(2) A licensed grower-salesman benefits like any other grower from price stabilisation, which is regulated very much in his interest as a grower.

(3) A licensed grower-salesman benefits from the general insurance of the Scheme in the event of an end-of-season surplus.

A grower who is not licensed under the above Orders pays no levy but if he sells through a licensed auctioneer, he is treated as a licensed grower-salesman and the auctioneer may deduct the levy of 6/- per ton from the proceeds of the sale.

AGRICULTURAL NOTES.

SEASONAL FARM NOTES.

PLOUGHING.

The time for sowing and planting has now arrived, and any ploughing still to be done should be completed as soon as possible. The 31st March is almost here, and farmers are reminded that old grassland must be ploughed before that date in order to be eligible for the £2 per acre subsidy.* In addition to the subsidy aspect of the matter, it is important to have the ploughing of lea finished by the end of March, or before that time, so as to allow the ploughed furrows to settle down and get consolidated. The longer the period between the ploughing and sowing of lea ground, the better the seed-bed can be prepared. During that period the ploughed furrows tighten down, and this helps considerably in the production of a firm seed-bed which is very essential, especially on lea ground. At the same time early sowing is desirable, so that the only way that the period between ploughing and sowing of lea can be lengthened is by ploughing as early as possible.

Far more failures to get good crops on old lea land are due to bad methods of cultivation than to attacks of wireworms and leather jacket grubs. The ploughed furrows must be consolidated, and this can only be done by rolling before cultivation of the ploughed land begins. Rolling after cultivation will tighten the top of the ploughed land, but will not press down the soil into the spaces between the sods, and it is the presence of such spaces that causes the plants to fail. The roots on reaching a vacant space suffer from drought and fail to feed the plants, which turn yellow, wilt, and die.

The ploughing of potato and turnip ground should also be completed at the earliest possible date. All pits of potatoes and roots should be removed from the fields at the first opportunity, so as not to hold up the work of ploughing.

LIMING.

Tests have revealed that a very large proportion of the land in Northern Ireland is in need of lime. Apart from being essential as a plant food, lime has other beneficial effects. It corrects acidity, which develops through time in all soils to which lime has not been applied, and being a great cleanser and purifier, lime applied to old pastures is very beneficial to the health of the stock grazing on them. Lime has a very valuable physical effect on heavy soils, tending to form the very fine particles into clumps, thus making these soils freer and more easily worked.

Where liming is practised regularly the lime should be applied once in every rotation of crops, and the best place in the rotation to apply it is before

* Period now extended to 30th April.

the corn crop preceding the first hay crop is sown. The lime should be applied at the rate of from 20 to 30 cwt. of burnt lime per statute acre on top of the ploughed land as soon as possible after ploughing, and as long as possible before sowing. When lime is applied in this way it will be near the roots of the plants in the succeeding pasture, and the quality of the pasture will be greatly improved in consequence.

This system of liming is recommended as a general rule, but where barley and beans are to be grown on land which had not been limed recently a dressing of lime should be applied, no matter what the stage in the rotation, as neither of these crops will thrive properly in a soil lacking in lime. This is especially true in the case of barley.

Again, land intended for turnips, swedes, cabbage or kale, where finger-and-toe disease is suspected, should get a dressing of lime before sowing the crop, as that disease is likely to appear amongst these crops if they are grown in acid soils.

The foregoing will have shown the value of lime, but as the Land Fertility Scheme is still in operation farmers can obtain lime for application to agricultural land at half the normal cost, provided it is purchased from an approved supplier and that not less than 2 tons are purchased and applied. Farmers should, therefore, not fail to take advantage of this scheme and give a dressing of lime at least to any land intended for barley, beans, or for sowing out to grass. Further information on liming is given in leaflet No. 84, copies of which may be had free, on request.

Method of Application.—Burnt lump lime should be distributed in heaps over the ploughed land, and the heaps left until the lumps are broken down to a fine powder by the action of atmospheric moisture or rain. This process is called slaking, and the fine powder is slaked lime. It is an advantage to cover the heaps with soil during slaking, but not absolutely necessary. The soil covering, by reducing the amount of dust, makes spreading less difficult. As soon as the lumps are reduced to a fine powder the heaps should be scattered evenly over the ground, using a shovel. If spreading is urgent the burnt lime may be slaked with water and spread immediately.

BROWN-HEART OF TURNIPS AND SWEDES.

Many farmers will have noticed brown patches in the hearts of the turnips and swedes when they were sliced. These are caused by a disease known as brown-heart or "raan," which is due to a deficiency of boron in the soil. The feeding value and keeping properties of affected roots are considerably reduced. The remedy is to apply borax at the rate of 20 lb. per statute acre. The borax may be mixed with about 5 times its weight of sand so as to make it easier to distribute evenly. Not more than 20 lb. of finely granulated

borax per statute acre should be applied, as boron is required only in small quantities in the soil, and too much would be as harmful as too little.

"Raan" or brown-heart disease is frequently worse on heavily limed soils, the reason being that the lime in the soil lessens the availability to the plants of the boron present. It is advised, therefore, that where soils are limed for turnips or swedes a dressing of 20 lb. of borax per statute acre should also be given to prevent "raan" or brown-heart by making up for the depressed availability to the plants of the boron originally present in the soil.

The borax should be broadcast on the cultivated land before the last harrowing prior to opening the drills. When applied in this way it will become well mixed with the soil. It may, however, also be mixed and applied with the artificial manures.

CHOICE OF CROPS.

The foremost thought in the minds of many farmers now is what crops, and what proportion of each, should be grown so as to make the best possible use of the land under the plough. The aim should be to make the farm as self-sufficient as possible, and to grow such crops as will be most useful in the feeding of livestock next winter, in addition to an area of flax to provide raw materials for essential war equipment.

An increase in all the crops normally grown, such as flax, beans, potatoes, barley, oats, wheat, roots, cabbage and kale, is desirable, and in last month's issue of this report special mention was made of beans, barley and flax, as these are crops the acreage of which needs to be increased enormously in war time.

Kale and Cabbage.—These include marrow-stem kale, thousand-headed kale and field cabbage. These crops are most valuable on all farms, and deserve special mention and consideration. Up to the present the area under them in Northern Ireland has been comparatively small—a fact that is difficult to understand when their value is realised. The feeding of these crops during winter has a very beneficial effect on the health of the stock receiving them. They are particularly valuable for keeping up the milk yield of dairy cows in late autumn and during winter and early spring—cabbage in late autumn and early winter, and kale in late winter and early spring—and also tend to the production of richly-coloured milk. Both cabbage and kale are very productive crops and of high feeding value. They contain about 14 per cent. of dry matter, as compared with about 11 or 12 per cent. in swedes, and they have approximately twice the protein content of swedes. They are also much richer in vitamins and minerals than swedes and, whether mature or immature, can be fed safely to all livestock and poultry. Every farmer who requires food for livestock during winter is advised to grow an area of

cabbage and kale, in addition to the roots normally grown. A leaflet on "Kale and Cabbage" has been printed, and copies may be had free on request. This is Leaflet No. 99.

SOWING AND PLANTING.

Beans.—Beans should be sown during late February, or as early in March as possible, and for this reason farmers intending to grow field beans should lose no time in getting the seed sown. Beans can be ploughed in when the land is not quite fit for sowing cereal crops. Late-sown crops are later in ripening, leaving them more difficult to harvest, and are also more subject to attack by the bean "fly" than those sown earlier. The growing of beans is dealt with in Leaflet No. 97, copies of which may be had free, on request.

Oats.—Oats should be sown at the earliest possible date after the land is in a fit condition for sowing. Early-sown crops generally put up a slightly smaller bulk of straw, but usually give a higher yield of better quality grain. Early sowing should be practised, especially on rich soils, as early-sown crops are not so liable to lodge as late-sown crops, and also ripen earlier, which is generally an advantage at harvest time.

The rate of seeding for oats depends on a number of factors, such as the variety and percentage germination of the seed, the method of sowing and the nature of the soil and seed-bed. When one of the larger-grained, poorer-tillering varieties, such as Crown, King, Eagle, Stormont Arrow, etc., is sown a heavier seeding is required than for one of the smaller-grained, better-tillering varieties such as Potato, Tyrone Tawny, Sandy, etc. Again, if the seed is sown with a drill machine about 2 stones per acre less seed are required than when the seed is sown broadcast. Also on a rich soil and well-prepared seed-bed less seed per acre is necessary than on a poor soil or badly-prepared seed-bed. Where there is a danger of lodging it is a mistake to sow too thickly, as a thickly-growing crop is more liable to lodge than a crop which is a shade thinner. Under average conditions the following rates are satisfactory :—

Large-grained varieties—sown broadcast	16 stones	per statute acre.
,, ,, —sown with corn drill	14 stones	
Small-grained varieties—sown broadcast	14 stones	
,, ,, —sown with corn drill	12 stones	

When the seed is sown with a corn drill it is necessary to prepare a seed-bed before sowing. After drilling, one stroke of a harrow should be given to cover the seed. In preparing the seed-bed before sowing the disc harrow is a very useful implement. It has no equal for consolidating the ploughed furrows and forming a fine, loose bed on the surface at the same time. The ideal seed-bed for all spring-sown cereals is fine on the surface and firm underneath.

When oats are to be grown on lea ground in poor heart, after another corn crop, or on other land in poor condition, a dressing of a mixture of manures as follows should be applied at the time of sowing the seed :—

1 cwt. sulphate of ammonia	per statute acre.
2 to 3 cwt. superphosphate	
1 cwt. potash salts (30 per cent.)	
or ½ cwt. muriate of potash	

Alternately, from 3 to 5 cwt. of the complete fertiliser, prepared according to the Ministry's 1940 formula for oats and barley, should be given.

Oats grown on rich lea land, or after a root or potato crop which was well manured, need no further manuring. On soils very rich in nitrogen, as after a wild white clover lea, a dressing of a nitrogenous manure would actually be harmful and result in lodging, but a dressing of from 2 to 3 cwt. superphosphate and 1 cwt. potash salts, or from 3 to 4 cwt. potassic super would balance the nitrogen in the soil, promote early ripening, stiffen the straw and help to prevent lodging, and increase the yield of grain.

All seed oats should be dressed with one of the organo-mercury powders such as Ceresan, Agrosan G, and Abavit, before sowing. This will encourage good brairding, save seed and prevent diseases including "leaf stripe" and "smut." Full directions for the dressing of seed are given in Leaflet No. 96.

Barley.—The vital necessity for a very large increase in the area of barley has been stressed in previous issues of this report, and from the enquiries received it seems that farmers in general now realise this necessity. Ample supplies of barley seed are available through the normal trade channels, and farmers who have not already ordered a supply should place their order with the local merchant as soon as possible, as the demand for seed barley is very large.

The sooner barley can be sown after the beginning of April the better, and as that date is near at hand the first suitable opportunity for sowing should be taken.

The growing of barley is fully dealt with in Leaflet No. 95, copies of which may be had free, on request. Two essentials in barley growing are to see that the land is not lacking in lime, and that the seed is not put in too deeply. Therefore, where barley is being grown on lea ground, the ploughing should always be given one stroke of the harrow before sowing, if the seed is to be broadcast and covered by harrowing. It is advisable to dress the seed as advised in the case of oats.

Wheat.—It is now much too late to sow a winter variety of wheat, but in districts where spring wheat is known to do well a spring variety, such as Red Marvel, could still be sown. Spring varieties must be sown early to

ensure that the crop will ripen properly, and should always be sown before the end of March if possible. The only wheat variety that may safely be sown later than March is April Bearded.

In many districts there is a certain element of risk about growing spring wheat as cases have been known where the crop failed to ripen properly. For this reason the sowing of spring wheat is not recommended except in districts where it is known that the crop can be grown successfully. Seed wheat should also be dressed with one of the organo-mercury powders before sowing.

Top-dressing for Winter Wheat.—Where wheat is grown on land in good heart it will generally need no further manuring, but a large proportion of the winter wheat sown in Northern Ireland would benefit from a top-dressing of a nitrogenous manure in spring. The time of application of this top-dressing is very important. Where it is desired to increase the grain yield of a crop of normal thickness, 1 cwt. per statute acre of a nitrogenous manure, such as sulphate of ammonia, should be applied towards the end of April or early in May, but where the braird is looking very thin after the winter about one-third of this dressing should be applied during March and the other two-thirds towards the end of April or early in May. The early application has the effect of thickening the braird, while the late application tends to increase the size of the ears and, therefore, to increase the yield of grain.

POTATOES.

As soon as the beans and cereals have been sown, the planting of maincrop potatoes should begin, provided conditions are suitable. In fact cross-ploughing of stubble land in preparation for potatoes may often be possible before the soil is in a fit condition for sowing cereals.

Preparation of the Land.—The ploughed land is stirred up to the same depth as it was ploughed, leaving a deep bed of loose soil in which the drills can be opened. The soil, when ready for opening, does not need to be in a very fine condition—not so fine as for turnips or mangels—and a tilth of an open nature will give best results, provided it is loose and friable. Cross-ploughing is an advantage, and leaves the tilth very easily prepared, but where power is available to pull a grubber at a sufficient depth in the original ploughing then cross-ploughing may be dispensed with, especially if time is limited. Where time is available, cross-ploughing is recommended, especially where the soil is inclined to be heavy and difficult to till. Also, as mentioned previously, the land may be cross-ploughed when it is reasonably dry, but not in a fit condition to be grubbed. The amount of cultivation necessary to leave the land ready for drilling will depend on the nature of the soil, and every farmer must use his own discretion to decide this.

Drills for potatoes should be from 26 to 27 inches wide. Larger drills than this have no advantage, but have the distinct disadvantage of being difficult to dig with the potato digger. When the drill is large the sock of the digger is not able to get under the full width of the drill, nor are the prongs of the digger able to throw out the drill satisfactorily, with the result that the pull on the horses is very great and digging is inefficient, as many potatoes are left covered in the sides of the drill.

Preparation of the Seed.—If seed has not already been picked, this should be done at the first opportunity. The seed should be put in sprouting boxes, if these are available, and kept in a well-lighted house or, alternatively, if boxes are not available, the seed should be spread in a comparatively thin layer over the barn floor (on most farms the barn is free at this time of year). This gives the seed an opportunity to sprout, and sprouted seed is an advantage, as sprouted tubers are earlier in growth and less likely to "miss" than unsprouted tubers. Where seed potatoes are being sprouted in a house, either on the floor or in boxes, it is a good plan to open the doors during the daytime so as to allow plenty of light to reach them, which is essential for the production of sturdy sprouts. A framing of light slabs, covered with netting wire, may be fitted in the doorway to keep out poultry and other stock when the door is open.

Care should be exercised in the handling of sprouted seed so as not to break off the sprouts. Those in boxes should be "dropped" from the boxes.

Prevention of "Misses."—The following precautions will greatly reduce the number of "misses" in a crop, especially if cut seed is used—

(1) Do not let the land dry out during preparation. Drills should be manured, planted and closed as quickly as possible after opening.

(2) Do not let the manure dry up in the drills. Only manure each day what drills can be planted and closed that day.

(3) Do not let cut seed dry up in the drills. On a good drying day, especially, the drills should be closed almost immediately the tubers are planted.

(4) Do not allow the freshly cut surfaces of cut sets to come in contact with the artificial manure, as the manure may burn the wet surface. Either sow the artificial manure first and drop the seed with the cut surface up, or drop the seed first with the cut surface down.

(5) Do not cut seed until the ground is ready for planting and, above all, never leave cut seed in bags, as such seed is very liable to "miss" due to heating. If seed is cut for a short time before planting it should be left in a thin layer on the floor of a house, and should only be bagged immediately before it is being brought to the field.

(6) Never cut seed into too small sets, especially with the heavy cropping white varieties such as Arran Peak, Dunbar Standard, Arran Consul, and Arran Banner. Two sets are generally enough to make from any tuber, and the practice of cutting off a portion of the heel is not recommended.

(7) Plant only seed which is healthy, and which has not been exposed to frost.

EARLY GRASS.

An early "bite" of grass will be very welcome on most farms this year. Growth from 2 to 3 weeks earlier than normal can be obtained by the application per statute acre of 1 cwt. of a nitrogenous manure such as sulphate of ammonia, nitrate of soda, or nitro-chalk. For this purpose a field of young pasture should be chosen, as it will respond better to the dressing than old pasture. Not more than 1 cwt. of one of these manures per statute acre should be applied, and the same field should not be so treated in successive years unless a dressing of phosphates and potash is also given.

MANURIAL MIXTURES FOR FARM CROPS.

The following are the complete manurial mixtures recommended for the various farm crops under average conditions, the quantities in each case being for one statute acre.

Oats and Barley.

1 cwt. sulphate of ammonia
2 to 3 cwt. superphosphate
1 cwt. 30 per cent. potash salts *
or ½ cwt. muriate of potash *

} or 3 to 5 cwt. of the ready mixed oats and barley manure. (Ministry's 1940 formula.)

Flax.

1 to 1½ cwt. muriate of potash or 2 to 2½ cwt. 30 per cent. potash salts with ½ cwt. of sulphate of ammonia given in addition on the poorer soils.

Beans.

15 tons farmyard manure.
3 cwt. superphosphate
1 cwt. 30 per cent. potash salts *
or ½ cwt. muriate of potash.*

Potatoes.

15 tons farmyard manure
1 cwt. sulphate of ammonia
4 cwt. superphosphate
1 cwt. muriate of potash *

} or 6 cwt. of the ready mixed Special Potato manure. (Ministry's 1940 formula.)

If farmyard manure is not available 9 cwt. of the mixture of artificials should be applied.

Turnips and Swedes.

10 to 15 tons farmyard manure.
4 to 6 cwt. superphosphate.

If no farmyard manure is available the dressing should be

1 to 1½ cwt. sulphate of ammonia.
6 to 8 cwt. superphosphate.
1 to 2 cwt. 30 per cent. potash salts.*

Mangels.

20 to 25 tons farmyard manure.
2 cwt. sulphate of ammonia.
4 cwt. superphosphate.
4 cwt. agricultural salt, or of kainit.

Cabbage and Kale.

20 to 25 tons farmyard manure.
2 to 3 cwt. sulphate of ammonia.
3 to 4 cwt. superphosphate.
1 to 2 cwt. 30 per cent. potash salts.*
or ½ to 1 cwt. muriate of potash.*

Pastures and Meadow Land.

Where such land has not been manured during the winter a dressing of from 4 to 6 cwt. superphosphate will be beneficial with 1 cwt. 30 per cent. potash salts* given, in addition, to the lighter soils. For the production of early grass 1 cwt. of a nitrogenous manure such as sulphate of ammonia, nitrate of soda, or nitro-chalk should be applied.

* If difficulty is found in obtaining the potash manures this may be overcome by using potassic superphosphate instead of both the potash and superphosphate mentioned. The amount of potassic superphosphate to use should be approximately equal to the sum of the quantities of superphosphate and 30 per cent. potash salts stated in the mixtures given above.

SEASONAL LIVESTOCK NOTES.

With supplies of feeding stuffs more plentiful than they were, and the season approaching when the grass will supply a large proportion of the food requirements of cattle, the stock owner is in a much better position than during the winter. The winter which has passed has been a difficult one, and the difficulties should at least have made obvious the absolute necessity for a greatly increased area under crops on the home farms.

Last winter demonstrated how serious the position could be when a great reduction in the supplies of imported feeding stuffs caught farmers unawares.

There is no reason to assume that any larger quantity of imported foods will be available next winter and, indeed, it is unlikely that there will be a larger quantity. Farmers were taken unawares last winter, but there is no excuse for those who fail to prepare for next winter. Now is the time to prepare for next winter, and the way to prepare is to put in as large an area of crops as possible, so as to be largely independent of purchased foods.

OX-WARBLE FLY.

The Ox-Warble fly is one of the most serious pests with which the cattle owner has to contend. This fly is the cause of animals gadding or running during the summer, which prevents cattle from thriving and seriously reduces the milk yields of dairy cows. The loss caused to cattle owners in this way is very large but, in addition, the maggots which hatch from the eggs laid by the fly finally end up in the back of the animal underneath the hide on each side of the back bone. These appear on the outside as swellings. Each

swelling has a breathing hole through the hide to the air. The maggots, while in this position, are a cause of discomfort to the animal, and also when the infested animal is sold the value of the hide is considerably reduced due to the holes and, besides, the flesh is reduced in value.

It is obvious that in the long run this reduction in value must be borne by the farmer, and it should be clear, therefore, that the eradication of this pest would be in the interests of all cattle owners.

Since the maggots emerge from the backs of the animals during the period from March to June, and develop into the adult flies which again begin the life cycle by laying eggs, it is true that if all the maggots were killed in the backs of the cattle before emerging, by applying one of the dressings recommended, the warble fly would very soon be eradicated. This can be done quite simply by all cattle owners co-operating, and each seeing that his cattle are properly dressed at the correct times.

With this object in view, the Ox-Warble Fly Order was made. This Order makes it compulsory for every owner to dress his cattle with an approved preparation between the 15th and 22nd of March, and at intervals of 28 days afterwards, until no further swellings appear. Farmers should, for their own advantage, co-operate in an effort to eliminate this pest, for when the pest is eradicated the necessity for compulsory dressing will disappear. Those who fail to carry out the provisions of the Order are warned that they will be prosecuted. All stock-owners are warned that no relaxation of the Order, because of the war or for any other reason, will be made, and that the Ministry will make every effort to ensure that the terms of the Order are complied with, and that those who fail to comply with the Order are not allowed to escape the penalties prescribed. Further information on this subject is given in Circular No. 13 and Leaflet No. 64, copies of which can be had free, on request.

DAIRY COWS.

In last month's issue of this report advice was given on the management of the in-calf cow, on the treatment of the cow at and immediately before calving, and on the prevention of milk fever. It is proposed this month to continue the subject by giving advice on the treatment of the cow and calf immediately after calving.

Treatment of the Cow after Calving.—During and after calving it is very important that the cow should be kept warm and not be exposed to draughts. A cow which has been put into a loose box to calve should be returned to her stall, as soon as she has "cleaned", for convenience of milking. When the byre is being cleaned out and the cows fed and foddered care should be taken to keep the door on the windward side closed, except

when it is absolutely necessary to open it, as a draught for any considerable length of time might prove fatal to a newly-calved cow. A byre with doors on two sides and a passage through would naturally be draughty if the doors on the windward side were not kept closed.

Shortly after calving, the cow should be given a bran mash at blood heat and should get similar mashes thrice daily for a week or so. No other meals should be fed until after that time has elapsed. Then the bran mashes may be gradually reduced and finally discontinued and an allowance of meals fed which should be gradually increased until the cow is receiving the full quantity in accordance with the amount of milk she is giving. From 20 to 30 lb. roots or green food should be given daily, together with from 14 to 20 lb. of good hay or straw. Also, water from which the dead cold has been taken should be offered at least twice daily and preferably 3 times daily.

The weather at this time of year is usually too cold to allow a freshly-calved cow out and she should be housed day and night for a considerable time after calving. The actual time before the cow may be allowed a short run out at mid-day depends on the weather, but generally at this time of year the cow should be at least from 2 to 3 weeks calved before being allowed out, and even then she should only be allowed out if the weather is mild. Care should be taken not to leave a freshly calved cow standing about the gate as there is perhaps no other place where a cow will catch a chill more easily.

As was mentioned in last month's notes in connection with the prevention of milk fever, the udder should not be milked out dry for the first 9 or 10 days after calving.

Treatment of the Young Calf.—Immediately the calf is born its navel should be disinfected with tincture of iodine as a preventive of White Scour and Navel Ill. Full details of this treatment are given in Leaflet No. 82—"White Scour in Calves."

It is generally advisable to remove the calf from the mother at birth, rather than to leave it for a few hours to suck, as immediate removal causes less distress to both than separation later, leaves the calf easier to teach to drink and generally leaves the cow easier to milk. The house into which the young calf is removed should be free from draughts and should be dry, clean, disinfected and well-bedded with clean straw. It is also advisable to put the newly born calf into an empty house, if one is available, rather than into a house with another calf, as the other calf gets in the way when drying the newly-born calf and when giving it the first few feeds. After birth, the young calf should be thoroughly dried with wisps of clean straw.

Feeding.—The first feed should be given in a few hours after birth when the calf is on its feet and should consist of from 1 to 2 pints of the mother's milk or "beestings". The calf should receive its mother's milk for at least a week, and longer if possible. The colostrum or beestings given by a cow immediately after calving has slight purgative properties and is designed by nature to suit the young calf; it should always be fed to the calf from birth.

During the first week or so after birth feeding should be done sparingly as more harm is generally done by over-feeding during this period than by under-feeding. For the first few days about 3 quarts of milk per day is ample and this should be distributed over at least 3 feeds—or more if time permits—divided as evenly as possible over the 24 hours. The allowance of milk may be increased gradually until in the fourth week the calf is getting 6 quarts daily. After about the third week the milk may be given in 2 feeds daily.

Feeding should always be done at regular hours, as the calf gets to know the feeding times, and if a feed is delayed longer than normal the calf becomes restless and when the feed does arrive it is inclined to drink it too quickly.

If any trouble, such as indigestion should arise only heated water (at blood heat) should be given for one or two days. Then some milk may be fed mixed with the heated water, and as the symptoms of distress decline the proportion of milk may be increased gradually until the calf is again receiving the normal allowance of milk.

It is essential to observe strict cleanliness in the feeding of young calves and all pails should be washed and scalded after every feeding time. The use of pails soiled with stale food is a common cause of digestive trouble in young calves. Further information on calf-rearing is given in leaflet No. 54, copies of which may be had free, on request.

Dishorning of Calves.—Every farmer realises the importance of having store or beef bullocks without horns. The value of hornless stores is up to £1 per head more than for those having horns and of equal merit otherwise. This is because the hornless animals can much more safely be put in a shed together for fattening and usually thrive better under such conditions than horned cattle.

The most convenient method of having store bullocks without horns is to stop the growth of the horns when the calves are young. This is done by burning the growing point of the young horns with caustic potash and should always be done before the calf is 9 days old. The ideal time is when the calf is from 2 to 7 days old.

Caustic potash is purchased from the chemist in sticks which when not in use must be kept in an air-tight bottle.

To do the operation the calf is held firmly in a well lighted spot and the hair clipped from around the tips of the horn buds so that these are plainly visible. A stick of the caustic potash is then taken and the end dipped in water and rubbed firmly on the point of each horn until the horn has a red appearance. In about 2 days another slight rubbing will make sure that the growth of the horns has been stopped.

Care should be taken to rub the caustic potash only on the tips of the horns and not on the flesh around them. A piece of cloth or paper should be wrapped round the stick where it is being held, to avoid burning the fingers.

This method of dishorning has everything to recommend it, being simple, safe and effective; and is to be preferred by far to the cumbersome and dangerous method of removing the horns with a saw or shears from bullocks up to 1 or 2 years old.

SHEEP.

Lambing.—Notes on the care of ewes at lambing time were given in the January issue of this report.

Treatment of the Flock After Lambing.—After lambing, the sheep and lambs should be put on a fresh field to which sheep have not had access for a considerable time—the longer the better. This will help to keep the young lambs from becoming infested with stomach worms. The only method of freeing or partly freeing a field from sheep stomach worm infection is to rest it from sheep for as long a period as possible.

The suckling ewes should be given hand feeding until the grass comes, and one turnip per head daily is also beneficial. A suitable ration for trough feeding could be made from 2 to 3 parts of a mixture of foods such as crushed oats, bran, flaked maize and maize meal, with one part of decorticated earth-nut cake. The quantity fed depends on the amount of grass available and on the number of lambs being suckled but usually from 1 to 1½ lbs. per sheep daily is satisfactory.

If the production of very early lambs is aimed at, the lambs should be fed separately from the ewes in a creep, beginning with about 1 lb. of meals daily to 7 lambs when the lambs are 4 weeks old and increasing gradually to about 1½ lb. per head daily when the lambs are 4 months old.

Green food such as thousand-headed kale is also very useful for feeding to lambs intended for the early market.

PIGS.

Now that maize meal is more plentiful pig feeders may adopt an attitude of satisfied approval and think that all is again well from the food point of view. This would be a most unfortunate occurrence and one that would be likely to lead to disaster. It is pointed out once again, in case some pig

keepers have forgotten the warnings already given, that the only sure way to safeguard the pig industry is to produce at home as much as possible of the food required.

This automatically means that barley must be grown and grown extensively. Every pig keeper in Northern Ireland who has suitable land must grow some barley so as to have a stand-by of food for his pigs from next autumn onwards. Those who neglect to grow barley and have the land suitable for doing so are betraying their trust and taking a step which will seriously jeopardise the valuable pig keeping industry of this country.

Pig keepers! Be up and doing, and do your part at this time to increase the country's stocks of suitable pig foods by growing all the barley you can. The seed is available at a reasonable price. Lime is available at half the normal price. There is no hindrance to the great increase in the barley area which is required.

SEASONAL ORCHARD AND GARDEN NOTES.

Capsid Bugs on Apple Trees.—Apple trees which were attacked last year by capsid bugs will have the eggs of these insects in their bark, where they remain over the winter and will produce a fresh brood of bugs if not destroyed. To destroy these eggs the trees should be sprayed with a suitable petroleum wash when the buds begin to burst. Petroleum washes are liable to damage the buds if applied after the young leaves unfold, but on the other hand if they are applied too early they will not be fully effective in destroying the bugs' eggs. The correct timing of the application, therefore, is important. Thorough spraying is essential if satisfactory results are to be obtained. Full particulars regarding the control of capsid bugs are given in Leaflet No. 10.

Apple Scab Disease.—Supplies of lime and of bluestone for the preparation of washes to be applied for the prevention of apple scab disease should be obtained now, so that there may be no delay when the time for spraying arrives. Detailed advice regarding the spraying of apple trees to prevent this disease is given in Leaflet No. 33.

VEGETABLES.

The next few weeks will be one of the busiest periods of the year in the vegetable garden, and the success of the season's work will depend to a large extent on securing a good seed-bed, and on the correct timing of sowing the seeds. If the soil was dug early in the winter it should break down readily when dry, and be easily prepared for sowing.

Kinds to sow now.—As soon as the soil and weather conditions permit seeds of broad beans, peas, parsnips, onions, lettuce and garden turnips should be sown where the crops are to mature. The main sowing of seeds of cabbage, Brussels sprouts, cauliflower, broccoli, borecole, leeks and savoy cabbage, should be made in lines towards the end of March or early in April, to obtain plants for planting out later. Seeds of celery and vegetable marrows should be sown in a warm glasshouse, or in a frame on a hot-bed, during late March or early April.

Manuring Cabbage.—Cabbage planted out last autumn should receive at least two more dressings of nitrate of soda during the next two or three weeks. The manure should be applied at the rate of about 3 cwt. per acre at each dressing, allowing an interval of from 10 to 14 days between the two dressings. The plants should be lightly moulded up after each dressing.

Planting out Cabbage and Onions.—The best of the cabbage plants which wintered in the seed-bed may, if required, be planted out now in well-manured, deeply-dug soil. These will provide a succession to those which were planted out in the autumn. Onions sown last autumn, and which wintered in the seed-bed, should also be planted out now. These, too, require a rich, well-cultivated soil. Care should be taken not to plant too deeply and to make the roots firm in the soil.

Celery.—The trench for celery may be prepared now, and the soil which is thrown out on both sides may be cropped with lettuce and radish.

Beans and Peas.—Beans and peas raised under glass in January and early February should be planted out now in their permanent quarters. If the soil is of a heavy nature, and inclined to be sticky, it is a good plan to place boards on the ground and to walk on these while planting. The peas should be given protection from cold winds by placing twigs of spruce, laurel or similar material along the east side of the rows.

Management of Seedlings.—Prick out into boxes or frames seedlings of such vegetables as onions, Brussels sprouts, cauliflower, etc., which were sown in heated glass-houses or hot-bed frames earlier in the year. These seedlings should now be carried on under cooler conditions, and gradually hardened off preparatory to planting out in the open ground in April and early May.

TOMATOES.

Tomato plants raised from seed sown in February should now be well established in three-inch pots. As the plants develop, the pots should be spaced wider apart so as to prevent the plants becoming drawn. These plants should be ready for planting out in unheated houses about the first week in April.

Temperature and Ventilation.—Tomato plants which were planted out in February and early March should now be developing rapidly, and with the lengthening days and more sunshine extra attention will have to be given to watering and ventilation. On sunny days the temperature may safely be allowed to rise to 65 degrees F., but the temperature should be prevented from rising above that level by giving more ventilation before a higher temperature is actually registered. When the house is fully ventilated it is quite safe to have the temperature rise to 75 degrees, or even higher. On dull, cloudy days, it is safer to allow the temperature to drop a few degrees than to try to maintain a high temperature without sunshine.

Watering.—Water should be given sparingly until the second truss of flowers has "set." Up to this stage water should be applied only when it is seen that the plants are inclined to wilt in bright sunshine. Wilting of the plants in bright sunshine immediately following a period of dull weather, however, does not necessarily indicate a need for water. In these circumstances no water should be given, as the plants will probably recover as soon as the strong sunshine passes. In other cases a small quantity of tepid water should be poured on the soil immediately around the stem of each plant. The object at each watering should be to apply only sufficient water to moisten the soil occupied by the roots. Plants in pots and boxes should be examined at least once a day, and watered where necessary.

Overhead Damping.—All tomato plants, whether being grown in pots or boxes, or planted out in the floor of the house, should be lightly damped overhead once a day during bright weather. This can be done by fitting a fine rose to a watering can and spreading the water lightly over the plants. This damping should be done shortly before noon, using water heated to a temperature of about 65 degrees F. This moistening of the plants and the air in the house helps in the distribution of the pollen, and the subsequent growth of the pollen tube which is essential to the formation of fruit. As the season advances this damping may be done two or three times each day. On dull days, however, instead of damping the plants the stems should be lightly tapped about mid-day to spread the pollen.

Supports.—Tomato plants require to be supported, and in small houses this is probably most economically done by providing each plant with a stake. In larger houses, where the plants are planted in the floor of the house, support is usually provided by stretching 4-ply fillis from a wire attached to the sash bars to a wire running along at the base of each row of plants. Each plant as it grows is then twisted round the fillis.

LETTUCE IN GLASSHOUSES.

Lettuce which has been planted out in glasshouses should be examined frequently, and any decaying leaves removed and burned. The soil between the plants should be stirred with the hoe or a pointed stick, so as to encourage quick growth.

FLOWERS.

Seeds of hardy annuals such as sweet pea, clarkia, godetia, etc., may be sown out of doors, and early chrysanthemums planted out in deeply-dug, moderately manured soil, early in April. Bush rose trees should be pruned during the last week of March or early in April.

SEASONAL POULTRY-KEEPING NOTES.

Culling of Laying Flock.—Since the outbreak of war and the first sign of a shortage of feeding stuffs the Ministry has continued to impress on poultry keepers the absolute necessity for the culling out of all unprofitable birds and weaklings from their flocks. Although the feeding stuffs' position has improved recently, the necessity for rigorous culling still remains and, even in peace time, the most successful poultry keepers always culled their flocks rigorously, as they found it did not pay to waste food (which was then cheaper and more plentiful than now) on culls and unprofitable birds.

From now onwards the price of eggs is usually lower than during the winter months. As soon as the price drops all low producers in the laying flock should be removed and sold. Many of these were probably not paying their way even when the prices were good, but with lower prices prevailing they will certainly not pay for the food consumed.

Useful notes on the culling of flocks are given in Leaflets Nos. 2 and 29, copies of which may be had free on request.

Assistance from Poultry Instructors.—The Ministry desires to give all the help possible to poultry keepers, and any poultry-keeper who wishes the Poultry Instructor to visit for the purpose of giving a culling demonstration or other advice regarding poultry should apply to the County Agricultural Executive Officer. The names and addresses of the County Agricultural Executive Officers were given in the January issue of this report.

It should be clearly understood that the advice and help of the Instructor are given free of charge, and that no fee can be accepted. It has come to the notice of the Ministry that some poultry keepers are under the impression that they must pay a fee if they call in the Instructor. On the other hand, it is not the duty of the Instructor to carry out extensive work, such as the culling of an entire flock of birds, but to show the poultry keeper how this should be done.

Hatching.—No further hatches of eggs from any of the heavy breeds, such as White Wyandotte, Rhode Island Red, and Light Sussex, should be set this season, as pullets of these breeds hatched much after the end of March, generally do not begin to lay in time for the highest prices of eggs. It is also an established fact that chickens hatched from eggs laid towards the end of the laying period are more difficult to rear than those hatched early in the season.

Pullets for autumn laying may, however, be hatched up to the end of April from eggs laid by light breeds, such as the White Leghorn, as these mature more rapidly and will lay at an earlier age than the heavy breeds.

Advice on the preparation and management of incubators and brooders was given in the December and January issues of this report, while the management and feeding of the young chickens were dealt with in the February issue.

Brooder Space for Chicks.—Care should be taken not to overcrowd young chickens in brooders or hovers. It should be remembered that although a 100-chick size hover will accommodate 100 day-old chicks, that number will be seriously over-crowded in it when the birds are a few weeks old. Overcrowding is very harmful to the health and vigour of the birds, and should always be avoided. It is a far too prevalent error in management, and is the cause of much trouble.

Separation of the Sexes.—As soon as the sexes can be identified they should be separated, as the management of growing pullets is different from that for fattening cockerels. This early separation will also help to avoid over-crowding.

Management of the Cockerels.—The aim should be to have the cockerels ready for market as soon as possible, as prices usually fall as the season advances. They should be penned separately from other fowl, and fed on a mixture of foods such as pollard, maize meal, barley meal, and ground oats, wet with separated milk or fresh buttermilk. Plenty of water or separated milk should be given to drink and, if the birds go off their food, nothing but separated milk should be given for a day or so, when normal feeding may be resumed.

Management of Growing Pullets.—The management of the pullets is the very opposite to that of the cockerels. The pullets should be kept on free range, and their house should be moved to a fresh field, to which poultry have not had access for some time, if such is available. A field which was in first-year hay last summer, after a crop rotation, is ideal. Such land will be free from parasites, and will give the pullets every chance to grow into healthy vigorous birds.

Portable houses or arks, each fitted with a slatted floor and droppings board, and holding from 30 to 50 pullets, are the most convenient. The houses should be moved frequently to fresh ground, and the droppings boards should be cleaned regularly. If the houses are moved every day, droppings boards are not necessary in slatted floor houses, as the droppings during one day will not injure the grass.

The diet fed to pullets is different from that for the cockerels, and is not of a fattening nature, but rather designed to secure maximum growth of bone and muscle. These growing pullets when on fresh pasture range will get quite a large proportion of their food when wandering over the land, and it would be a mistake to give them full rations in troughs, as this would discourage them from foraging for themselves. Besides saving food and making it unnecessary to provide a complete ration, the ranging of the birds is of particular advantage to the birds themselves. It assists them to develop into robust, vigorous pullets which, when laying begins, will be much more likely to remain healthy and productive than those which have been pampered and restricted during the developing period. War time rations are actually better than peace time rations for young pullets, and once these are ten or twelve weeks old, and out on range, they will not add to the worries of the poultry keeper in regard to feeding.

Ducks.—The hatching of ducks for winter egg production or for table purposes may now be done. The most suitable breeds for egg production are the Khaki-Campbell and Indian Runner, while the best breeds for the production of table ducklings are the Aylesbury and Pekin. A first cross between the Aylesbury and the Pekin is also satisfactory for obtaining good table ducklings.

Duck eggs may be hatched in an incubator, and instructions for the hatching of duck eggs are supplied with most makes of incubators. It is important to supply more moisture when hatching duck eggs than is needed for hen eggs, and the temperature should also be slightly higher for duck than hen eggs.

Turkeys.—From early March onwards, and during the laying season, turkey hens should be given a good laying mash in addition to a grain mixture. A suitable mash could be made up from 9 parts of a mixture of bran, pollard and maize meal, with 1 part of fish meal or meat meal, and the whole fed in a crumbly, moist state. The turkeys should be allowed to range over fresh, clean ground, and just before they start to lay they should be watched closely so that the nests can be located at once. If this is not done a turkey hen could be laying for a number of days without the nest being found, and generally the magpies are quick to locate eggs left in the nests. It is a good plan to provide nests in a covered, out-of-the-way place, near where the

turkeys are ranging, as it is probable that the birds will choose one of the nests provided. Boxes placed on their sides, well concealed beneath brushwood or whins, are suitable; the turkey hen likes to lay in a secluded place where she is not seen. Instead of waiting for the turkey hens to go broody, it is better to set the eggs under broody hens as they are laid. The eggs are then set in a fresh condition, and if the first mating was not successful this will be seen after the first sitting is down 7 days. If these are infertile the male bird can be changed and the loss in time, labour and eggs, will thus be much less than if the infertility had not been discovered until the turkeys were finished laying.

When the turkey hen becomes broody, if this is reasonably early in the season, she should be closed up and well fed, and generally she will begin to lay again in a short time. When this is done and the eggs hatched out under broody hens, almost twice the normal number of poults may be obtained from each turkey hen.

Those who do not keep a turkey cock of their own should secure the services of a carefully selected bird. Such can be obtained at the County Turkey Stations for a nominal fee. Lists of holders of County Stations may be had from the County Agricultural Executive Officer or from the local Poultry Instructor.

Further information on the hatching and rearing of turkeys is given in Leaflet No. 37, copies of which may be had free, on request.

RESULTS OF CROP EXPERIMENTS, 1939.

POTATOES.

Experiments were again carried out during the past season to ascertain the cropping capabilities of some of the new varieties of potatoes, as compared with the old standard varieties. Tests with both early and main crop varieties were arranged by the Agricultural Instructors, and with the early varieties by the Horticultural Instructors.

Early Varieties:

Eight varieties—5 first earlies and 3 second earlies—were tested, and the average yields produced by each variety grown at 9 centres are given in Table I. The yields were obtained from diggings made during late July and early August. For comparison purposes, the average total yields obtained in the 1938 tests, together with the average total yields for the six years 1934-1939, inclusive, are given.

TABLE I.

AVERAGE YIELDS PER STATUTE ACRE.

Variety	1939 (9 centres)						1938 (11 centres)		1934-39 (70 centres)	
	Saleable		Chats and Diseased		Total		True average total yield.		True average total yield.	
	T.	C.	T.	C.	T.	C.	T.	C.	T.	C.
Arran Pilot ...	8	6	1	0	9	6	8	8	10	10
British Queen ...	8	5	0	14	8	19	10	18	11	1
Ulster Chieftain ...	7	15	0	18	8	13	*		*	
Dunbar Rover ...	8	1	0	11	8	12	*		*	
Di Vernon ...	6	19	1	5	8	4	8	11	10	1
Ulster Monarch ...	7	2	0	13	7	15	10	18	†	
Ballydoon ...	6	16	0	11	7	7	8	18	9	19
Dunbar Yeoman ...	5	18	0	10	6	8	8	15	10	2

* Only tested in 1939. † Only tested from 1937.

The varieties Ulster Chieftain, Arran Pilot, Di Vernon, Ballydoon and Dunbar Yeoman are first early varieties, while Dunbar Rover, British Queen and Ulster Monarch are second early varieties.

Ulster Chieftain is a new first early variety, producing white, oval tubers of attractive shape, and of good cooking quality. As will be seen from Table I, its yield compares favourably with the yields from the other varieties tested.

Dunbar Rover is a new second early variety included in these trials for the first time. It ripens somewhat later than British Queen, and the tubers are oval to long-shaped and of excellent cooking quality. It is immune, and would be suitable for replacing the non-immune British Queen.

The highest average total yield has been given by Arran Pilot, while British Queen, Ulster Chieftain, Dunbar Rover and Di Vernon have also given good yields. Dunbar Yeoman, although having given a good average yield over the last six years, has yielded poorly in these trials. This is a variety, the tubers of which have lemon-coloured flesh, and are of fair cooking quality.

In the 1939 trials only one digging was made at most centres, towards the end of July or early August, as the late spring left the crops not far enough forward to be ready for an earlier digging.

Further information on these varieties is given in Leaflet No. 7, copies of which may be had on request.

MAINCROP VARIETIES:

Eight maincrop varieties, including the three new varieties: Arran Peak, Dunbar Standard and Gladstone, were tested at 8 centres, and the average yield of each variety at the eight centres is given in Table II. In addition,

the true average total yields for the 1938 tests are given, together with the true average total yields for the last four tests during the years 1936 to 1939 inclusive.

TABLE II.

AVERAGE YIELDS PER STATUTE ACRE.

	1939 (8 centres)								1938 (11 centres)		1936-39 (40 centres)	
	Ware		Seed		Chats and diseased		Total		True average total yield		True average total yield	
	T.	C.	T.	C.	T.	C.	T.	C.	T.	C.	T.	C.
Up-to-Date ...	12	18	1	15	2	19	17	12	14	10	14	18
Arran Peak ...	14	1	1	4	1	8	16	13	12	19	*	
Majestic ...	13	19	1	6	1	2	16	7	13	8	14	16
Kerr's Pink ...	12	0	2	4	1	12	15	16	15	11	14	14
Arran Victory	12	9	1	19	0	15	15	3	14	8	14	7
Gladstone ...	11	9	2	0	1	14	15	3	13	15	14	0
Dunbar Standard	12	13	1	3	0	16	14	12	13	6	**	
Redskin ...	12	3	1	8	1	0	14	11	11	2	**	

* Tested 2 years only. ** Tested 3 years only.

The highest total yields have been given by Up-to-Date, Arran Peak, and Majestic, with Kerr's Pink, Arran Victory and Gladstone not far behind.

Of the three new varieties the heaviest total yield was given by Arran Peak. This variety matures about the same time as Majestic, and earlier than Dunbar Standard. The haulms are rigid and of medium height. The tubers are white in colour, well-shaped, being oval to long, and are of reasonably good cooking quality. The haulms are not so resistant to blight as those of Dunbar Standard.

The total average yield of Dunbar Standard obtained in the 1939 tests, although above last year's yield, is considerably below that of Arran Peak and Gladstone. This was largely due to a relatively large proportion of some of the crops "missing." Sets of this variety should not be cut too small, and, if possible, the seed should be sprouted before planting. The haulms are tall and erect, providing good cover for the suppression of weeds. It is a late-maturing variety, and is comparatively resistant to blight. The tubers are white-skinned, kidney-shaped, and of reasonably good cooking quality.

Gladstone is an early maincrop variety which has produced a satisfactory yield. The tubers are white-skinned, splashed with pink, and of excellent cooking quality. The variety is suitable for replacing the non-immune King Edward, and in tests where these two varieties have been compared under similar conditions, Gladstone has always given the higher yields.

Redskin is also an early maincrop variety, which produces haulms of medium height, and tubers which resemble Kerr's Pink in colour and shape, but with shallower eyes.

Further information and descriptive notes relating to the newer varieties of potatoes are given in Leaflet No. 7, "Potato Trials." Lists of the names and addresses of growers of the varieties mentioned in these trials, whose crops have been certified pure and healthy by the Ministry, may be had free, on request.

BARLEY.

During 1939 further experiments were carried out by the Agricultural Instructors to compare the relative values of various varieties of barley.

The variety Old Common (Chevallier) was not included in the 1939 experiments, but tests in previous years proved that this is a very suitable variety for the lighter, poorer soils, especially in the later districts. It is an early ripening variety, producing long slender straw, and would be liable to lodge if grown on very rich soils.

Table III shows the true average yield of each variety for the various periods in which the varieties were tested.

TABLE III.

AVERAGE YIELDS PER STATUTE ACRE.

Period and number of centres	Spratt Archer	Abed Kenia	D.S.K. Binder	Svalof Victory
	Grain	Grain	Grain	Grain
	C. Q.	C. Q.	C. Q.	C. Q.
1939 (4 centres)	20 0	19 1	19 0	18 1
1938 (10 centres)	24 0	26 2	——	24 3
1937 (8 centres)	16 1	——	——	14 0
1936 (8 centres)	17 3	——	——	——
Average 1938-39 (14 centres) ...	23 0	24 0	——	22 3
Average 1937-39 (22 centres) ...	20 2	——	——	19 2

The variety Spratt Archer has been proved over a considerable number of tests to be a good yielding variety. It produces a stiff straw, and is suitable for growing on the richer soils.

D.S.K. Binder is a new variety of Danish origin, which has been included in the tests for the first time, and gave very promising results.

Abed Kenia and Svalof Victory have again given good yields. Both are short-strawed varieties, which ripen early and are suitable for growing in the later districts.

The results of these tests show that there are many varieties of barley which can be grown successfully in Northern Ireland, and that the yields of barley obtained compare very favourably with the yields obtained from oats.

OATS.

Oats is the most widely grown cereal crop in Northern Ireland, and is grown over a very wide range of soil conditions. Although oats can be grown successfully on many soil types, nevertheless it is important to choose as far as possible a variety which is suitable for the particular soil where the crop is to be grown. Oat varieties may be divided roughly into two classes, those suitable for the richer soils, and those suitable for the poorer soils, and in these trials varieties of these two classes have been tested separately on soils suited to their respective requirements.

Varieties suitable for Good Soils:

The average yields obtained from these varieties are given in Table IV. As all 7 varieties were not grown at each centre, it is not possible to give the average yields obtained from all varieties in respect of all the centres, but the average yields per statute acre from groups of varieties which were grown at the same centres are given. For example, Onward and Stormont Arrow were grown at the same 7 centres, and the average yields obtained from all these centres in respect of these two varieties are given in the first line of figures in Table IV. Similarly, Onward, Crown and Stormont Arrow were grown at the same 6 centres, and the average yield produced by each of these varieties at these centres is given in the second line of figures in Table IV., and so on.

It will be seen from the Table that Onward, which produced the heaviest average yield of grain in the 1938 tests, has again yielded well. This variety has large-size grain and strong straw which stands well, and on its showing in the last three years' trials it seems to be very suitable for Northern Ireland conditions.

Elder has also given good yields in the 1939 tests, and the average yields produced are about equal to those of Onward, and higher than any of the other varieties tested. Elder is a comparatively late-ripening variety which stands well.

The varieties Crown and Stormont Arrow have, as usual, shown themselves to be reliable, and there is very little difference between the yields produced by these varieties. Both suit good strong soils, and resist lodging well.

Marvellous has been included in the trials for the first time, and has given a satisfactory yield, although somewhat lower than the yields given by the varieties already mentioned.

These results confirm the results of previous experiments, namely, that on good soils the new varieties such as Onward, Elder, Stormont Arrow and Crown will produce heavier yields than Potato or varieties of the Potato type.

TABLE IV.

AVERAGE YIELDS PER STATUTE ACRE.

	Elder		Onward		Crown		Stormont Arrow		Marvellous		Utility		R. 30	
	Grain c. q.	Straw	Grain c. q.	Straw	Grain c. q.	Straw	Grain c. q.	Straw	Grain c. q.	Straw	Grain c. q.	Straw	Grain c. q.	Straw
1939														
7 centres			22 0	28			19 3	28						
6 centres			21 2	28	19 2	25	19 2	27						
5 centres	23 2	32	22 3	29			20 0	28						
5 centres			21 0	27			18 2	26	20 1	27				
4 centres	23 1	32	23 0	29			19 0	28	21 0	29				
4 centres			23 1	32			22 1	33			20 3	38		
3 centres	22 0	29	22 1	28	18 3	26	18 2	24					19 3	28
2 centres	18 1	25	19 3	23			15 3	21	17 3	25				
Average for 1938 (4 centres)	24 3	42	28 0	40	24 3	38	24 3	44			21 3	45		
Average 1929-39 (71 centres)					22 2	32	21 3	32						

VARIETIES SUITABLE FOR POORER SOILS:

Six varieties which were considered likely to give satisfactory results on the poorer soils were grown on such soils, and the average yields of each for 1939, 1938 and the period 1935-39 are given in Table V.

Tam Finlay, which is a selection of Poland, and Stormont Kern, a variety raised at the Ministry's Plant Breeding Station, have given the highest average yields at the 6 centres. As will be seen from the average for the period 1935-39, both these are good varieties for the poorer types of soils; Stormont Kern ripens the earlier of the two.

The variety with the lowest average yield is Short Grained Tyrone Tawny, but nevertheless this is a very useful variety for the poorest soils, and is noted for its great stooling capacity. The short-grained type has a shorter and plumper grain than the ordinary commercial Tyrone Tawny.

R.30 and Utility, both varieties of the Potato type, have given moderate yields, but not so good as in the 1938 trials. Further trials on the poorer soils with these varieties are necessary before a definite pronouncement on their value can be made.

TABLE V.

AVERAGE YIELDS PER STATUTE ACRE.

	1939 (6 centres)				1938 (8 centres)				1935-1939 (41 centres)			
	Grain		Straw		Grain		Straw		Grain		Straw	
	C.	Q.	C.	Q.	C.	Q.	C.	Q.	C.	Q.	C.	Q.
Tam Finlay ...	16	1	32	1	14	2	34	0	17	0	34	2
Stormont Kern ...	15	3	27	1	14	3	31	0	16	3	32	1
Gordon Sandy ...	15	0	25	1	14	1	31	0	16	3	31	0
Utility	14	2	25	0	14	1	31	0	*		*	
R. 30	14	0	23	2	14	3	34	0	*		*	
Short-grained Tyrone Tawney	13	1	26	2	12	3	28	0	15	2	30	1

* Only tested 1938-39.

ANNOUNCEMENTS AND REMINDERS.

GENERAL.

Ox-Warble Fly.—The Ox-Warble Fly Order requires that all cattle must be dressed with a suitable derris wash between the 15th and 22nd March and at intervals of 28 days afterwards, until no further swellings appear. A list of approved washes is given in Circular No. 13, copies of which may be had free, on request. Neglect to dress affected animals at the proper times is very likely to lead to a prosecution. All cattle owners are warned that the Ministry intends, during the war, to enforce the provisions of the Order equally as strictly as in peace time. In making up the washes the directions given on the packets should be followed. Further information on the preparation and application of washes is given in leaflet No. 64, copies of which may be had free, on request.

Seed Flax and Barley.—Ample supplies of both flax and barley seed are available through the normal trade channels. It is essential to have a very large increase in the area under both these crops this year and farmers who have not already obtained seed for sowing should do so as soon as possible.

Poultry Stations and Accredited Poultry Farms.—Lists giving the names and addresses of hen, duck, goose, and turkey stations can be obtained free from the County Agricultural Executive Officer or from the local Poultry Instructor. Lists of the owners of Accredited Poultry Farms can be obtained from any of these sources or from the Ministry free, on request. The breeding stock on these farms has been carefully selected and the hens have passed the test for Bacillary White Diarrhoea disease. Those requiring eggs for hatching should obtain them from Accredited Poultry Farms or County Poultry Stations.

Advice from Poultry Instructor.—In these difficult times when the culling of poultry flocks is a national necessity poultry-keepers are reminded that advice on this subject or on any other aspect of poultry husbandry may be had from the local Poultry Instructor. Poultry-keepers are advised to make use of this facility and obtain the expert advice of the Poultry Instructor when in doubt. On request to the County Agricultural Executive Officer the Poultry Instructor will visit and give a culling demonstration on the farm or other advice connected with poultry, free of charge.

Land Fertility Scheme.—Once again farmers are reminded how, under this Scheme, they can obtain lime for application to agricultural land at half

the normal cost and are urged to take advantage of the Scheme while it is in operation. Some advantages of liming are given on page 672 of this report and further information on liming is given in Leaflet No. 84, copies of which can be had free, on request.

ULSTER DAIRY SCHOOL.

On the first Tuesday in May the Ulster Dairy School is re-opening for the normal courses of training which had been carried on there before the outbreak of war. These courses provide training for girls in poultry-keeping, dairying, and rural housewifery, and girls desiring to enter the school for the forthcoming course should make immediate application to the Ministry for admission. Copies of the prospectus, each of which contains an application form, will be supplied free, on request.

NORTH WEST SCHOOL, STRABANE.

The next session at this school will begin on 2nd April, 1940, and will last for about 11 weeks. Useful courses of instruction in poultry-keeping, dairying, and rural housewifery are provided for girls. Admission is by scholarship so that instruction, board, and residence are free. Applications for scholarships should be made to the County Agricultural Executive Officer, or the local Poultry Instructor, and as scholarships are awarded in the order in which applications are received, and as the starting date is near at hand, no time should be lost before making application. Copies of the School prospectus and of forms of application for scholarships can be obtained from either of the sources mentioned above, or from the Ministry.

FIELD BEANS, KALES, AND CABBAGE.

These are crops which should be grown on every farm where stock is kept. Beans are the only high-protein home-grown food which can be successfully produced in Northern Ireland and, therefore, that crop deserves a place in the cropping programme if for no other reason than to ensure having a supply of protein for dairy cows, fattening cattle and pigs. The crop should be sown at once. Full particulars of the cultivation of beans both as a pure crop and mixed with oats are given in Leaflet No. 97.

Kales and cabbage provide valuable food for cows and fattening cattle, and in moderation for pigs and poultry. Marrow-stem kale, thousand-headed kale and cabbage are easy to grow and are sure croppers. A very heavy yield of excellent food is obtained. Their use saves expenditure on meals and

cakes and therefore reduces the cost of production of milk, beef, bacon, and eggs. Full advice regarding the growing of these crops is given in Leaflet No. 99.

LEAFLETS.

Copies of any of the leaflets mentioned in these notes may be obtained, free of charge, on request. New leaflets which have been issued recently are:—No. 94, The Growing and Harvesting of Flax; No. 95, Barley Growing; No. 96, The Prevention of Leaf Stripe and Smut in Cereal Crops; No. 97, The Growing of Beans for Stock Feeding; No. 98, "Wool Ball" Disease in Lambs; No. 99, Kale and Cabbage; Allotments Leaflet No. 2, Cropping the Allotment; Allotments Leaflet No. 3, Sowing and Planting in March.

EGG-LAYING TEST AT STORMONT.

The first twenty weeks of this test ended on the 17th February last and the average number of eggs per bird which were laid during that time, based on the full flock of 684 birds, was 61, or nearly five eggs per bird less than the average for the corresponding twenty weeks of the previous test. The very severe weather experienced during the months of January and February was mainly responsible for this decline in production, but there is evidence that the birds are now returning to normal, and production is increasing.

Despite the weather conditions some very good performances have been made by individual pens of pullets and noteworthy are the three pens of White Wyandottes entered by Mrs. Peel, Oakleigh, Roses Lane Ends, Belfast, in Section 1. These occupy 1st, 2nd, and 3rd places in that section and 17 of the 18 birds were in lay at the close of the 20 weeks' period. The total numbers of eggs laid by the six birds in each of these pens were 626, 587, and 570, or an average of 104.3, 97.8, and 95.0 eggs, respectively, per bird.

Other good scores are 588 eggs laid by the pen of Rhode Island Reds entered by Mrs. H. Rea, Lisowen, Crossgar, County Down, and 522 eggs laid by the pen of Rhode Island Reds entered by the Marquis of Hamilton, Baronscourt, County Tyrone.

One of Mrs. Peel's pens occupies first place in the entire test and Mrs. Rea's pen is second.

The rate of mortality during the 20 weeks was 3.8 per cent., which is 0.3 per cent. less than the rate during the corresponding period of the previous test.

MINISTRY OF LABOUR RETAIL PRICES AND INDICES.

The Ministry of Labour general index of retail prices of food in Great Britain and Northern Ireland, at 1st February, 1940, was 61 per cent. above the level of July, 1914, as compared with 57 per cent. at 1st January, and 38 per cent. at 1st February, 1939. At 1st February the average level of retail prices of food was somewhat higher than at 1st January. This was largely due to increases in the prices of meat, particularly imported beef; there was a reduction, however, in the prices of the cheaper cuts of mutton, both home-killed and imported. Other articles of food which showed increases in prices during January included fish, cheese, potatoes and eggs, and in all these cases the severe weather was an influencing factor. There was also a slight increase, on average, in the prices of bacon during January, but a reduction of about 2d. per lb. in the maximum prices was made on 5th February.

The following table shows the average retail prices of certain foods in large towns and villages, at 1st February, 1940, 1st January, 1940, and 1st February, 1939.

Article	1st Feb., 1940	1st Jan., 1940	1st Feb., 1939	Increase over July, 1914.		
				1st Feb., 1940	1st Jan., 1940	1st Feb., 1939
	per lb.	per lb.	per lb.	per cent.	per cent.	per cent.
	s. d.	s. d.	s. d.			
Beef, British—						
Ribs	1 3¼	1 3½	1 2¼	59	56	43
Thin Flank	0 9½	0 8¾	0 7½	43	31	15
Beef, Chilled or Frozen—						
Ribs	1 0¾	0 10½	0 9½	74	45	32
Thin Flank	0 6	0 5¾	0 5	24	18	2
Mutton, British—						
Legs	1 5¼	1 4¾	1 3¼	66	60	46
Breast	0 8	0 8½	0 7½	24	30	16
Mutton, Frozen—						
Legs	1 0	0 11¼	0 10¼	73	63	50
Breast	0 4	0 4¾	0 4	— 2	15	—
Bacon (Streaky)	1 8¼	1 7¾	1 3¼	80	77	36
Butter—						
Fresh	1 7	1 7	1 5	30	30	16
Salt	1 6¾	1 6¾	1 3¾	32	32	11
Cheese	1 1¼	1 0½	0 10¾	55	44	25
	Per Qt.	Per Qt.	Per Qt.			
Milk	0 7	0 7	0 6¾	98	99	95
	each	each	each			
Eggs (Fresh)	0 2½	0 2½	0 2	111	104	59
	Per 4 lb.	Per 4 lb.	Per 4 lb.			
Bread	0 8½	0 8½	0 8½	47	46	47
	Per 7 lb.	Per 7 lb.	Per 7 lb.			
Flour	1 1¾	1 1¾	1 2	29	30	31
Potatoes	0 7	0 6¾	0 5¾	46	38	20

The cost of maintaining unchanged the pre-Great War standard of living of working-class families at 1st February, was approximately 77 per cent. over the level of July, 1914, as compared with 74 per cent. at 1st January, and 55 per cent. at 1st February, 1939.

The latest information regarding the cost of living figure is that at 1st March the figure was 79 per cent. as compared with 77 per cent. a month earlier, and 53 per cent. a year ago. Details of the food prices involved will appear in the next month's report as above.

TRADE AND PRICES OF LIVESTOCK AT BELFAST AUCTION MARTS.

Business in store cattle at the weekly sales held during February was somewhat limited in scope. The demand, however, was quietly steady, and sales were effected at about previous quotations according to type and quality. The weekly ranges of prices per head were as follows for first and second quality animals:—

Week ended	*Large Forward Stores*	*Younger Stores*
10th February, 1940	£11 to £16	£5 17 6 to £10
17th „ „	£11 to £16 5	£5 17 6 to £10
24th „ „	Up to £15	£6 upwards
2nd March, „	£10 15 to £14 2 6	£5 15 0 to £9 10

At the first sales of the month there was a marked improvement in the dairy cattle trade as a result of the return to normal of transport in Great Britain after the dislocation caused by the snows of January. This improvement was well maintained and, with shippers and local dairymen in good attendance, demand was steady and prices firm throughout the month. The ranges per head for first and second quality dairy cattle were as follows:—

Week ended	*Milch Cows*	*Springers*
10th February, 1940	£14 to £30 5	£14 to £27 5
17th „ „	£15 to £32 10	£13 to £22
24th „ „	£16 to £30	£14 to £23 10
2nd March, „	£15 to £30	£14 to £25

Fat cattle and sheep at the saleyards were purchased by the Ministry at fixed rates on behalf of the Ministry of Food.

TRADE AND PRICES OF LIVESTOCK AT FAIRS.

The store cattle on offer at last month's fairs were of the usual Shorthorn and Aberdeen Angus crossbred types. The quality of the cattle was barely

up to average, and a fair proportion of the animals was in rather thin condition. With purchasers fewer than usual at most centres, trade on the whole was dull. The comparatively small numbers of strong forward stores were, however, in keen request. Good types of heifers suitable for the shipping trade also sold well and, although small and inferior beasts were difficult to sell, prices held firmly to former levels for most classes in sympathy with the controlled prices for fat cattle.

The quality of the dairy cattle offerings was rather poor. The demand as a rule was quite brisk and, on the basis of quality, prices were fairly well maintained, but the general level of quotations was lower.

The improvement in the feeding stuffs situation during February resulted in a considerabe hardening in the demand for young pigs, and prices recovered appreciably. Sows, however, remained in rather dull request at prices of from £6 to £9 per head.

PRICES OF LIVE STOCK.

Average prices of Live Stock at Fairs during the month of February, 1940.

Date	Fair	Calves (under 9 months)	Store Cattle	Springers		Milch Cows	Young Pigs
				Cows	Heifers		
		Per head	Per cwt.	Per head	Per head	Per head	Per head
		£ s.	Live weight	£ s.	£ s.	£ s.	£ s.
1	Ballymoney ...	7 10	33/- to 42/-	26 0	24 0	22 5	1 4
1	Strabane	5 5	38/- to 41/-	16 0	—	—	—
2	Moy	—	36/6 to 40/-	18 5	17 2/6	18 5	—
6	Omagh	7 0	43/- to 45/-	17 0	16 10	16 0	—
7	Londonderry ...	—	36/- to 42/-	18 0	—	—	1 3/6
7	Rathfriland ...	7 4/3	40/- to 44/-	21 0	19 0	19 0	1 5
8	Irvinestown ...	6 15	35/- to 38/-	15 10	15 10	—	1 7/6
9	Ballygawley ...	—	28/- to 43/-	16 0	—	15 0	1 7/6
10	Enniskillen ...	6 6/9	33/- to 39/-	18 0	18 0	16 0	1 12/6
12	Limavady ...	—	36/- to 42/6	17 0	15 0	—	1 4
13	Dungiven	—	35/- to 41/-	13 0	—	—	1 5
14	Crossgar	—	40/- to 44/-	—	—	—	1 10
14	Kilrea	6 9	38/- to 46/-	19 0	16 0	—	1 4
15	Ballynahinch ...	—	38/- to 43/-	19 0	—	17 10	1 15
17	Portadown ...	6 7/6	36/- to 38/-	20 0	18 0	17 0	1 16/6
19	Camlough ...	—	37/- to 42/-	18 0	17 0	16 0	—
21	Lisnaskea	6 7/6	30/- to 37/6	18 0	18 0	16 0	1 13
21	Moneymore ...	6 18/3	39/- to 42/-	16 10	13 15	16 0	—
22	Fintona	6 15/9	43/6 to 46/-	16 5	16 0	15 10	1 6/6
23	Castlederg ...	6 0	39/- to 41/-	14 10	—	13 0	1 7/6
23	Killylea	—	31/- to 43/6	19 15	—	18 10	—
24	Ballymena ...	6 9/6	32/- to 43/-	23 0	21 0	22 0	1 10
29	Antrim	—	38/- to 45/-	22 10	20 0	—	1 10

TILLAGE PUBLICITY CAMPAIGN.

The evidence received of the value of the publicity campaign carried out during February and March at fairs and markets in Northern Ireland has led the Ministry to decide to continue this additional means of meeting farmers and helping them in their problems and difficulties. The campaign is being carried on through the kind co-operation of Messrs Gallaher, York Street, Belfast, who have placed their advertising van at the disposal of the Ministry. This van is fitted with a loud speaker equipment, and advice and information are being given to farmers at the fairs and markets which the van visits.

In the February issue of the Report a list of the centres to be visited by the van was given, and the following further programme has been arranged.

Date of visit		*Centre*
Monday,	25th March	Armoy, County Antrim.
Tuesday,	26th March	Maghera, County Derry.
Wednesday,	27th March	Kilrea, County Derry.
Thursday,	28th March	Antrim, County Antrim.
Friday,	29th March	Killylea, County Armagh.
Saturday,	30th March	Newtownhamilton, County Armagh.
Monday,	1st April	Newry, County Down.
Wednesday,	3rd April	Rathfriland, County Down.
Thursday,	4th April	Armagh, County Armagh.
Friday,	5th April	Crossmaglen, County Armagh.
Saturday,	6th April	Poyntzpass, County Armagh.
Monday,	8th April	Castlewellan, County Down.
Tuesday,	9th April	Lisburn, County Antrim.
Wednesday,	10th April	Tandragee, County Armagh.
Thursday,	11th April	Lurgan, County Armagh.
Friday,	12th April	Keady, County Armagh.
Saturday,	13th April	Dromore, County Down.
Monday,	15th April	Trillick, County Tyrone.
Tuesday,	16th April	Plumbridge, County Tyrone.
Wednesday,	17th April	Dromore, County Tyrone.
Thursday,	18th April	Dungannon, County Tyrone.
Friday,	19th April	Sixmilecross, County Tyrone.
Saturday,	20th April	Clogher, County Tyrone.
Monday,	22nd April	Fintona, County Tyrone.
Wednesday,	24th April	Derrygonnelly, County Fermanagh.
Thursday,	25th April	Drumquin, County Tyrone.
Friday,	26th April	Castlederg, County Tyrone.
Saturday,	27th April	Donemana, County Tyrone.
Monday,	29th April	Tempo, County Fermanagh.

Farmers are asked to make a note of the date on which the van will visit their particular town, and to endeavour to be present.

FERTILISER PRICES.

The following are the prices to farmers for phosphatic and compound fertilisers for March, 1940. They are based on the basic prices obtaining in the four months ended 30th June, 1939, together with the additions allowed by Direction 2 of the Control of Fertilisers (No. 1) Order, 1939, issued under the Defence Regulations, 1939. These prices are for six ton lots ex. Belfast or Londonderry, and do not include freight charges which, of course, will vary from district to district. The prices of these manures are subject to a discount of 5 per cent. for cash with order. Where delivery is made ex. merchant's store a reasonable extra amount is chargeable to cover costs of cartage and handling expenses.

	Per ton gross £	s.	d.	
Superphosphate, 16% S.P.A.	5	1	3	
Potassic super, 11% S.P.A., 2% K_2O	5	6	3	
Mangel manure, 8% S.P.A., 5% nitrogen, 3.5% K_2O ...	7	1	6	Ministry of Agriculture Formulae 1940
Root manure, 11% S.P.A., 3.75% nitrogen, 2.75% soluble K_2O	7	2	6	
Oat and Barley manure, 9% S.P.A., 6% nitrogen, 4% K_2O	7	13	0	
Potato manure, 11% S.P.A., 3.5% nitrogen, 6% K_2O ...	7	12	6	
Semsol, 5% soluble and 15.5% insoluble phosphoric acid	4	7	6	
Ground North African Phosphate 26% phosphoric acid	4	2	6	

The price of sulphate of ammonia in six ton lots ex. Belfast or Londonderry is £8 16s. 6d. per ton. Extra charges for small lots:—Two tons and over, but less than six tons, 5/- per ton; one ton and over, but less than two tons, 10/- per ton; two cwts. and over, but less than one ton, 1/- per cwt.

The price of concentrated complete fertiliser No. 5 is £13 4s. 6d. per ton for 2 ton lots ex. Belfast or Londonderry, and the corresponding price for Nitro-chalk is £8 12s. 6d.

MINISTRY OF AGRICULTURE.

List of Leaflets

AGRICULTURAL EDUCATION.

Leaflet
No. 60 Advantages of Winter Agricultural Classes.
Prospectus of Ulster Dairy School.
Prospectus of North West School.
Prospectus of Greenmount Agricultural and Horticultural College.

CATTLE.

Leaflet
No. 54 The Breeding and Rearing of Calves.
„ 5 The Dishorning of Calves.
„ 19 How to Feed Linseed.
„ 48 The Fattening of Cattle.
„ 61 The Care and Management of Bulls.
„ 82 White Scour in Calves.
„ 70 Ringworm.
„ 80 Hoose or Husk in Farm Stock.
„ 91 Parasitic Worm Diseases of Farm Stock and Poultry.
„ 92 "Redwater" in Cattle.
„ 13 Contagious Abortion in Cattle.
„ 41 Blackleg, Blackquarter or Quarterill.
„ 64 The Destruction of Warble Fly Maggots in Cattle.

Circular
No. 5 Why Pay a Tax on the Horns of Cattle?
„ 13 The Ox-Warble Fly.
Guide to the Live Stock Breeding Act (Northern Ireland), 1922.

DAIRYING.

Leaflet
No. 16 The Feeding of Dairy Cows.
„ 42 The Purchase of Balanced Rations for Dairy Cows.
„ 36 Advantages of Milk Recording.
„ 39 The Production of Clean Milk.
„ 81 The Construction of Cow Houses.
„ 78 Graded Milk.
„ 77 Licensing of Milk Producers and Distributors.
„ 51 Butter-making on the Farm.
„ 14 Cheese-making on the Farm.

POULTRY AND EGGS.

Leaflet
No. 20 The Hatching and Rearing of Chickens.
„ 2 Improvement of Farm Poultry.
„ 3 Feeding for Egg Production.
„ 21 The Uses and Advantages of Portable Poultry Houses.
„ 28 The Construction of a Laying House for Poultry.
„ 83 The Care, Management and Feeding of Poultry Breeding Stock.
„ 29 The Selection and Breeding of Laying Hens.
„ 46 Hints for Winter Egg Production.
„ 57 How to have Eggs of First Quality.
„ 27 How to Keep Eggs Clean.

Talk to Producers
No. 39 Hints on the care and handling of Eggs for Market.

Leaflet
No. 56 Identification of Egg Supplies.
„ 59 Bacillary White Diarrhoea (Pullorum Disease).
„ 52 Gapes in Chickens.
„ 31 Coccidiosis in Poultry.
„ 43 Tuberculosis in Poultry.
„ 32 Roup of Poultry (Fowl Pox).
„ 91 Parasitic Worm Disease of Farm Stock and Poultry.
„ 18 Marketing of Dead Poultry.
„ 37 The Raising and Fattening of Turkeys.
Report on Stormont Egg Laying Test.
List of Accredited Poultry Farms in Northern Ireland.
Poultry in War Time.

PIGS.

Leaflet
No. 45 The Breeding and Rearing of Pigs.
„ 35 The Fattening of Pigs.
„ 75 Pig Production and The Pigs Marketing Scheme.

Talk to Producers
No 41 Feeding of Pigs in Relation to Bacon Quality.

SHEEP AND HORSES.

Leaflet
No. 47 The Care and Management of Sheep.
„ 63 Sheep—Castration, Docking, Foot-Rot and Care of Feet.
„ 23 The Handling and Care of Wool.
„ 24 Fluke in Sheep.
„ 25 The Rearing and Management of Young Horses.
Register of Premium Stallions in Northern Ireland.

FARM CROPS.

Lists of Growers of Certified Crops of Potatoes.
Leaflet
No. 44 New Varieties of Farm Crops.
„ 86 Manures and The Manuring of Farm Crops.
„ 7 Potato-growing Trials.
„ 73 The Propagation and Maintenance of Healthy Stocks of Potatoes.
„ 87 The Production of Potatoes for Seed.
„ 50 Potato Blight.
„ 74 New Pure Strains of Flax.
„ 1 Flax Seed.
„ 94 The Growing and Harvesting of Flax.
„ 95 Barley Growing.
„ 96 The Prevention of Leaf Stripe and Smut in Cereal Crops.
„ 97 The Growing of Beans for Stock Feeding.
„ 22 Leather Jacket Grubs.
„ 38 The Destruction of Charlock.
„ 55 Destruction of Ragwort or Benweed.
„ 84 Lime and Liming.
„ 40 The Laying down and Management of Temporary Pastures.
„ 90 The Improvement of Grassland.
„ 93 The Destruction of Rats and Rabbits.

FRUIT, VEGETABLES AND BEES.

Leaflet
No. 15 Suitable Varieties of Fruit.
„ 34 The Pruning of Apple Trees.
„ 9 The Renovation of Orchards.
„ 33 Spraying Calendar for Apple Orchards.
„ 10 Fruit Tree Pests—Capsid Bugs.
„ 11 Fruit Tree Pests—Aphides and Apple Sucker.
„ 12 Fruit Tree Pests—Caterpillars.
„ 79 The Picking and Storing of Apples.
„ 6 The Packing of Apples in Standard Boxes.
„ 65 The Packing of Apples in Barrels.
„ 49 American Gooseberry Mildew.
„ 68 The Cultivation of Strawberries.
„ 71 The Cultivation of Raspberries.
„ 88 Tomato Growing.
„ 67 The Cultivation of Vegetables.
„ 89 Some Pests and Diseases of Vegetable Crops.
„ 17 Home Bottling of Fruits and Vegetables.
„ 76 Acarine (Isle of Wight) Disease of Bees.
Guide to the Marketing of Fruit Act.
Allotments—Preparation of Ground.

FORESTRY.

Leaflet
No. 62 The Production of Timber on the Farm.
„ 72 Tree Planting for Shelter and Ornament.
„ 85 The Growing of Trees.

GENERAL.

Circular
No. 11 Fertilisers and Feeding Stuffs Act—General Summary.
„ 10 Purchase of Fertilisers and Feeding Stuffs.

Leaflet
No. 58 How the Fertilisers and Feeding Stuffs Act benefits the Farmer.
„ 66 Seed Testing Facilities of Traders.
„ 26 Ordnance Survey Maps for Farmers.

Any of the above publications may be obtained free of charge and post free on application to the Secretary, Ministry of Agriculture, Stormont, Belfast.

W2028/G115.5m.3/40.BL.G258.